EMERGING EDUCATIONAL INNOVATIONS, CREATIVITY IN RESEARCH FOR TRANSFORMATION OF TEACHING AND LEARNING IN THE NEW GLOBAL REALITIES

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Introduction

Teaching and learning process can be defined as a transformation process of knowledge from teachers to students. It is also referred to as the combination of various elements within a process where an Educator identifies and establishes learning objectives and develops teaching resources for implementing the teaching and learning strategy. In tandem, a global reality refers to a worldwide perception of a situation (in this case education), in which all the various aspects are considered. Hence, this paper looks mostly at transformative ways of teaching, learning and researching in the light of impactful global happenings. There are several new global realities that affect education, but the most impactful till date is the Covid-19 pandemic of 2020. Most of the new global realities in education emanate from the global event of the covid-19 pandemic.

Hadani (2022) opines that resultant growing number of school closures due to the pandemic continue to pose challenges to many families in the area of supporting children's learning. Although the scope of Educational disruption caused by COVID-19 is unprecedented in history, however, there are valuable insights via education that can aid handling emergency cases for countries across the world. In individual countries and regions, education is almost always disrupted by crises caused by armed conflict, natural disasters and sometimes, epidemics as witnessed globally by the outbreak of Corona Virus. In West Africa, According to World Bank (2015) the Ebola virus epidemic which killed over 11,000 people, kept at least 5 million children out of school.

Remote learning opportunities via websites, applications and platforms constitute a significant aspect of new global reality in teaching and learning. This is necessitated during the global pandemic of 2020, and has become one of the new normal of post-pandemic period. According to Yepas (2020), while about 90% of high-income countries are providing remote learning opportunities, less than 25% of low-income countries are offering any type of remote learning at all. Consequently, the former majorly engaged learners via online platforms, while the latter mostly use television and radio to reach learners. In fact, only about 23% of Countries in sub-Saharan Africa combine online and broadcast media platforms, and only 11% rely exclusively on online platforms.

In recent times, of all the new global realities affecting education and research, the Covid19 pandemic has been more devastating to education sector, more than any other global reality. UNESCO, (2020) submitted that the COVID-19 pandemic has affected the lives of many individuals, negatively impacting the global economy and sources of livelihoods. Due to measures to contain the pandemic, about 1.2 billion learners were out of school and 73.8% of the world's school population had been affected by school closures. Although this had affected access to quality education, it has further propelled the reshaping of education delivery across the world. On The abrupt closure led to significant disruptions in the Education system in Nigeria; including learning modes, access to school related services, parenting routines, and crisis management capacities of the federal and state ministries of education. While students were at home for over five months, causing relevant stakeholders to adapt quickly developed adaptive solutions to minimize the potential learning slide resulting from the pandemic.

According to UNESCO (2020) report, the closure of schools had affected 36,400,000 Primary and Secondary School Learners across Nigeria, including those in internally displaced camps. Few of these Learners - mostly from financially privileged households - have access to quality learning opportunities from the comfort of their homes. Major causes of this inequity include limited or non-availability of smartphones or computers and internet services in most homes, and the large number of schools that lack the financial and technical capacity to transition from in-school to remote learning facilitation. Many schools are limited in their capacity to purchase the required infrastructure for remote learning and often do not have teachers with the appropriate digital skills. For schools that may be better resourced, it has been challenging facilitating practical-oriented subjects and courses that typically engage students through laboratory experiments. With the closure of schools, there were very few Schools that can afford to set up and maintain virtual science Laboratories where Students and the Teachers or Lecturers can work together to simulate experiments (Abbey & Hoxley, 2020). Those Students had to make do with learning the theoretical aspects of science subjects alone, until schools re-open. The COVID-19 pandemic presents unique challenges for Nigeria's already fragile Education System (Obiakor & Adeniran, 2020). Before the pandemic, there was an estimated total of 10.2 million out-of-school children.

Aside health challenges emerging from global pandemics and diseases, there are other new global realities issuant from economic, social, political, environmental, and cultural challenges across the globe. Worldwide economic recessions, for instance, have impacted education adversely by changing global learning landscape. The drop, uncertainty, and volatility of recent global economy have created widespread unemployment, and left the Education system in financial shambles. Many families are unable to send their children to school, while those in school are increasingly dropping out due to harsh global financial realities.

Poverty and income inequality are also new global realities that are closely tied to economic recession. Freeman (2018) opines succinctly that "The distribution of wealth within and between countries is unequal, a reality that has preoccupied economists since their discipline's origins." Poverty and income inequality are in turn closely related to education. Due to these realities, merely half of the 128 million school-age children in sub-Saharan Africa are in school. It is worse with girl-children because they are rarely taught basic learning skills (Agbor, 2012).

A UNICEF report in 2020 stated that 10.5 million of the Country's children aged 5-14 years were not in school. Only 61% of 6 to 11-year-olds regularly attend primary school. On a socio-cultural level, some states in the North East and North West of the Country have more than half of the girls not enrolled in schools as marginalization ensures that girls are deprived of basic Education. The struggle was ongoing prior to the COVID-19 pandemic, to ensure young children especially girls stay in school and have access to proper education, as Nigeria contributes a whopping approximation of 20% of the total global out-of-school population.

Environmental education is also a new global reality in teaching, learning and research. The learning environment of a child is as much a pertinent issue, as the environmental education of a child. While the former refers to the learning space or learning location of a child, the latter refers to the child's awareness on the wellbeing of this space or location. Global environmental trends borders on awareness of issues of climate and ecological changes and their effects on humans. Expected innovations in international school curriculum would include environmental education, as touted by the United Nations in the past 30 years. In order to address pressing international issues on environment, ecological problems should also be seen as educational problems, where education takes full responsibility of creating awareness and solving global survival problems emanating from climatic and environmental changes (Gough, 2003).

This paper focuses on the above mentioned new global realities, and the transformational innovations in education and research as means of surmounting the global challenges they pose. The paper emphasizes new ways of looking at old concepts and practices for better outcomes.

Teaching and Learning during Pandemic and beyond

The Teaching and Learning process always assumed a different shapes in times of pandemic. When disasters and crises (man-made and natural) occur, Schools and Colleges need to be resilient and find new ways to continue the Teaching–Learning activities (Chang-Richards et al., 2013). One emerging reality as a result of the world health crisis is the migration to online Learning modalities to mitigate the risk of face-to-face interaction. Universities were forced to migrate from face-to-face delivery to online modality as a result of the pandemic. In the Philippines, most universities including Cebu Normal University have resorted to online learning during the COVID-19 Pandemic school lockdowns while in Nigeria only few privately owned Universities such as Covenant University, Ota, Ogun State, Bowen University, Ilisan Remo, Ogun State and few others were able to shift to online learning. However, this sudden shift had resulted in problems especially for learners without access to technology. When online learning modality is used as a result of the pandemic, the gap between those who have connectivity and those without widened (Adanikin & Adanikin, 2020). The continuing academic engagement had been a challenge for Teachers and Students due to access and internet connectivity.

However, the pandemic had unmasked substantial inequities in the Education sector. Private and non-governmental are working tirelessly to salvage the situation. Projects such as Digitate and Teach for Nigeria hope to ensure proper tools for Education which is available to all in Lagos Schools. One major issue that may stem from this inequality is that those kids who currently cannot keep up with their peers because of inaccessibility to digital tools may never catch up and will continue to feel the effect of this gap long after the pandemic is over. This may result in a severely diminishing pool of young adults who have garnered the necessary skills to stay ahead in the future (Adegboye & Henshaw, 2020). With Nigeria already behind in preparing its young people for the workplace of the future, the effects of the pandemic further exacerbate the issue.

Akoni, O. (2020) noted that due to the fact that schools were closed during the COVID19 pandemic, the Governments, private sector and key Education stakeholders made efforts to promote continued learning and bridge potential learning gaps. These efforts range from large-scale, low tech solutions that do not require internet-enabled devices (radio and television), to high tech alternatives (virtual classrooms, video conferencing, animated lessons and online resources libraries) that require internet-enabled devices. According to a 2019 Executive Summary on Poverty and Inequality by the National Bureau of Statistics, 40.1% of the population in Nigeria, Africa's most populous country and the largest producer of crude oil in Africa, is classified as poor. That is, on average, four out of 10 Nigerians has per capita expenditure below $400. For parents, the shutting down of Schools has necessitated deeper and more technical levels of involvement in their Children's Education. This has been challenging for most parents, as School Teachers were mostly directly responsible for driving the learning outcomes of school children. A number of parents have had to balance working or managing their families with actively facilitating or monitoring the home-schooling of children (Babatunde, 2020). Children whose Parents could not afford remote learning facilities had to wait for schools to re-open to continue learning, as such, it is uncertain the number of Children that will return to school when the pandemic is over (Obiakor & Adeniran, 2020). The Education crisis during the pandemic had also challenged the leadership style of government agencies working in Education. These agencies have had to deploy crisis management skills in ensuring that the number of Nigeria's out-of-school children does not increase permanently by working with stakeholders to provide distance learning opportunities for as many children as possible. They however have not provided an enabling environment for public Tertiary Institutions to transition from traditional schooling to remote schooling.

Coping Skills in Education during Economic Recession: A New Global Reality

In today's interconnected world, economic recessions have a far-reaching impact on various sectors, including education. The Covid-19 pandemic has exacerbated problems emerging from economic recession, which has in turn led to significant disruptions in educational systems and learning losses worldwide (Hanushek&Woessmann, 2020). As countries face the new global reality of economic recession, it is important to develop effective coping skills in education to mitigate the adverse consequences. One of the transformational innovations in education is to explore the significance of coping skills during economic downturns, and to forward strategies and interventions that educational institutions can adopt to navigate these troublous times.

During economic recessions, educational institutions often face reduced funding, budget cuts, and increased demands for services. This financial strain can compromise the quality of education, delay or compromise accurate research outcomes, hinder resource allocation, and limit access to educational opportunities. Furthermore, the psychological impact of economic hardship on students, educators, and families can negatively affect academic performance and well-being (Keller, 2009).

Innovations in education and creativity in research should include new ways of coping with the economic realities of less privileged and worse hit students. Coping Skills in Education should be developed. Such should include building educators' and students' resilience and adaptability as crucial coping skills. By fostering resilience, educational institutions can help individuals bounce back from setbacks, embrace change, and find innovative solutions to challenges. Incorporating resilience-building practices into curricula and teacher training programs can enhance the ability of educators to navigate uncertainties and model resilience for their students.

Additionally, teaching and learning would not be effective when emotional intelligence and well-being is lacking in times of economic recession. Heightened stress and anxiety among students and educators are easily evoked during recessions. Therefore, fostering emotional intelligence and well-being is essential. Educators can provide students with innovative ways and tools to manage their emotions. Students also can engage in prioritized spending, sports, mindfulness exercises or counseling services (Abolanle et al, 2009). Similarly, teachers should prioritize self-care and well-being to ensure their ability to support students effectively, lest they breakdown under probable strains.

Flexible Learning Environments are paramount during economic recessions. The need for flexible learning environments becomes even more critical when families are unable to sustain daily activities of commuting or school-feeding their children. Online and blended learning approaches offer the advantage of adaptability and accessibility, enabling education to continue during periods of financial hardship. By integrating technology effectively, educational institutions can reach students in remote areas, offer flexible schedules, and provide a variety of resources to accommodate different learning styles.

Another possible area of innovations and creativity is the strengthening of vocational and skills-based education. During economic recessions, the demand for certain skills may shift. Therefore, it is essential to strengthen vocational and skills-based education to align with emerging market needs. By providing students with practical skills and industryrelevant training, educational institutions can enhance their employability, ensuring a smoother transition into the job market during uncertain economic times. For instance, during the Covid-19 pandemic, many institutions taught students to make hand sanitisers and facemasks, the sales of which sustained many financially. Such relevant skills-education could also be reproduced during an economic recession (Ekpo & Onweh, 2012).

Government could also invest in the professional development of Teachers during a recession. New ways of training teachers to cope with teaching during economic downturns should be developed by government's partnership with educational institutions. Continuous training equips educators with the

necessary skills to adapt to changing circumstances, deliver high-quality instruction, and support students' wellbeing effectively. Professional development programs can include strategies for distance learning, classroom management during crises, and the integration of socio-emotional learning into the curriculum. An investment in teachers is an investment in the nation.

As economic recessions become a new global reality, coping skills in education have become more crucial than ever. By prioritizing resilience, adaptability, emotional intelligence, flexible learning environments, vocational education, and teacher professional development, educational institutions can navigate the challenges posed by economic downturns. These coping strategies empower students and educators to thrive despite adversity and lay the foundation for a more resilient and inclusive education system in the face of uncertain economic times.

Transformation of Teaching and Learning

Considering the limitation on connectivity, the concept of flexible learning emerged as an option for online learning especially in higher institutions in Nigeria. Flexible learning focuses on giving Students choice in the pace, place, and mode of learning which can be promoted through appropriate pedagogical practice (Gordon, 2014). The Learners were provided with the option of how he/she will continue with his/her studies, where and when he/she can proceed, and in what ways the Learners can comply with the requirements and show evidences of learning outcomes. Flexible learning and teaching span a multitude of approaches that can meet the varied needs of diverse learners. These include "independence in terms of time and location of learning, and the availability of some degree of choice in the Curriculum (including content, learning strategies, and assessment) and the use of contemporary information and communication technologies to support a range of learning strategies" (Alexander, 2010).

The importance of Education to Human development had been well documented, highlighting the catalytic roles of Education in National and Human Capital Developments (Fägerlind&Saha, 2016; Griffin, Care &McGaw, 2012). Education is a means of self-development through learning, knowledge, skills, and habits conveyed across generations. The importance of Education for the economic, social and moral development of a Nations cannot be under-estimated. It is of significant concern that Education at all levels had been threatened since the emergence of the novel coronavirus disease 2019 (COVID-19). The Coronavirus Disease is a highly infectious disease that has plagued the world population over the months from December 2019 till date. The disease spread through droplets (World Health Organization, 2020) and has affected more than 9.1 million persons, and resulted in about 473,000 deaths worldwide (Aljazeera News, 2020) as at the time of writing this paper. As a result, Countries have relied on several containment measures, including a range of physical and social distancing measures to flatten the epidemiological curve and avert morbidity and mortality due to COVID-19 (Barasa et al., 2020; Viner et al., 2020).

Different countries have engaged in various measures to implement physical distancing, such as complete closure of the economy, including Educational Institutions (Nicola et al., 2020; UNESCO, 2020). The pandemic is affecting all levels of the Education System, from pre-school to higher Education, in a manner that is of irreparable Educational and Economic implications (Lindzon, 2020). For instance, a four-week school closure in New York City translated to an economic impact of about $10.6 and $47.1 billion (Lindzon, 2020). A 12-week nationwide school closure cost 1% of GDP (Araz et al., 2012), while protracted closures could cost 3% of UK GDP (Keogh-Brown et al., 2010).

Though school closure is intended to control the spread of the virus in schools so as to prevent carriage to other vulnerable individuals, and sustain public health, however, these closures have had widespread socioeconomic impacts (Lindzon, 2020; Wren-Lewis, 2020; Cauchemez et al., 2009). Furthermore, the far-reaching effects of social/physical distancing and the associated lockdown measures, as well as school closures, have thwarted the Education sector and are expected to leave an indelible mark on the Education

system (Impey, 2020; Yinka & Adebayo, 2020; Nicola et al., 2020). Over 188 out of 195 countries have been implementing nationwide school closures and restricted.

Education Facilities (Nicola et al., 2020; UNESCO, 2020). It is estimated that more than 1,576, 021, 858, which constitute about 91.3% of all the learners across the globe, have been affected by the closure of Educational Institutions (Fong et al., 2020; Nicola et al., 2020; Sadique Adams & Edmunds, 2008; Brown et al., 2011; UNESCO, 2020). Apart from the impact on Learners, School closures have high Economic, Health and Social costs (Cauchemez et al., 2009; Brown et al., 2011; Wu et al., 2010).

Timely responses have been in place in most countries, such as Australia, Italy, Germany, Hong Kong, with regard to online learning before the pandemic (Crawford et al., 2020). Yet, researchers have shown that the pandemic has posed significant challenges to education in such Countries (Crawford et al., 2020). Hence, it is expected that the pandemic would have a more adverse effect on schools that had no online learning platforms before the pandemic (Zhong, 202; Kachra & Brown, 2019). Zar et al. (2020) pointed out that the indirect effects of the pandemic include disrupted schooling and lack of access to school, more especially in low and medium-income Countries.

In low and medium-income countries, the impact of COVID-19 is particularly threatening to Education given that Educational Systems have been working on substandard platforms (Dan-Nwafor et al., 2020; Yinka& Adebayo, 2020). It is also challenging in overcrowded resource constrained Schools in such regions to provide a safe learning environment for students (Zar et al., 2020). The pandemic has a peculiar dissipating impact on Education in Africa and other Countries through decreased level of Education, broadened existing divide in learning access and an increased number of school dropouts (Blundell et al., 2020; Dorn et al., 2020). In Nigeria, the threat posed to Education is compounded due to peculiar vulnerabilities, including poor health systems, poverty and inequality, hunger, internally displaced populations, high population densities, urbanrural divide and out-of-school population (Obiakor&Adeniran, 2020). Prior to COVID19, Nigeria accounts for one in every five of the world's out-of-school children. About 10.5 million children aged 5-14 years in Nigeria were out of school, and only about 61 % of 6 to 11-year-old children receive primary school Education on a regular basis (UNICEF Nigeria, n.d.). Hence, while Nigeria is battling with underlying educational challenges that have kept the Country behind in getting young people ready for the dynamic workplace (Dan-Nwafor et al., 2020; Obiakor&Adeniran, 2020; Yinka& Adebayo, 2020), COVID-19 impacts further exacerbate this problem.

Following the COVID-19 pandemic, all schools in Nigeria were closed from March 27, 2020, as one of the Federal Government measures to limit the spread of the disease. This translated to a contextualized state-wide school closure across the 36 states in the country. In response, different states' Ministries of Education have been releasing modalities for radio and TV schooling and internet-based learning for Students in public primary and secondary schools. Though these efforts could be effective, with experience from developed countries, it can amount to a far-reaching negative impact on the education system in developing low-income countries like Nigeria (Obiakor&Adeniran, 2020). For instance, as the COVID-19 pandemic is revolutionizing digital and online education globally, primary and secondary school learners in rural and under-served communities remain behind due to lack of skills and resources to adapt or transition to the new learning avenues. In addition, university students who may have the skills to undertake internet-based learning face poor internet infrastructure and a lack of reliable electricity supplies (Crawford et al., 2020; Zhong, 2020). Thus, learning remotely (including ratio, TV schooling, and online learning apps for Primary and Secondary Learners, virtual Libraries and online classes in the Universities) is practically not feasible in most Nigerian Communities. Poorly resourced institutions and socially disadvantaged learners where limited access to technology and the internet, as well as students' inability to engage in an online environment, undermine Government response (Zhong, 2020).

Obiakor and Adeniran, (2020) found that the pandemic has impacted Education in three major ways, including missed learning for the majority of the pre-pandemic Students, loss of access to vital school-provided services and leaving more kids behind. Thus, these impacts are likely to widen the gaps in education quality and socioeconomic equality following the school closures in the Country. This is because a lesser percentage of Learners who are in the Urban areas, who are likely to hail from higher-income families, stand more chance to access education during school closure through technology (Obiakor&Adeniran, 2020), leaving behind the majority of learners from poor homes and underserved rural and suburban areas of the country (Zhong, 2020). Apart from this, learners in schools that lack the resources or capacity to transition to online delivery are currently missing learning (Leung & Sharma, 2020).

Educational innovation: The Role of Technology in Learning in New Global Realities

Technology provides innovative and resilient solutions in times of crisis to combat disruption and helps people to communicate and even work virtually without the need for face-to-face interaction. This leads to many system changes in organizations as they adopt new technology for interacting and working (Mark &Semaan, 2008). However, technological challenges like internet connectivity especially for places without signals can be the greatest obstacle in teaching and learning continuity especially for Academic Institutions who have opted for online learning as a teaching modality. Thus, the alternative models of learning during new global realities such as economic recessions and pandemics should be supported by a well-designed technical and logistical implementation plan (Edizon, 2020).

The COVID-19 pandemic of 2020 triggered health concerns and an economic recession and has forced a rapid transformation of education, pushing institutions to adapt to remote learning. This shift has highlighted the need for innovative approaches that go beyond traditional teaching methods. Educational institutions, researchers, and policymakers are now exploring creative solutions to enhance remote learning opportunities.

Emerging educational innovations have the potential to transform remote learning opportunities and provide students with engaging, personalized, and effective educational experiences. Through research, educational institutions can harness the power of adaptive learning technologies, virtual and augmented reality, gamification, collaborative online learning spaces, open educational resources, and data-driven decision making. By incorporating these innovative approaches into remote learning environments, educators can bridge the gap between traditional and digital learning, fostering creativity, engagement, and academic success for all students.

COVID-19 has resulted in schools shut the world. Globally, over 1.2 billion Children are out of the classroom in 186 countries affected by school closure. As a result, Education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. Research suggests that online learning has been shown to increase retention of information, and take less time, meaning the changes coronavirus have caused might be here to stay. In Denmark, children up to the age of 11 are returned to nurseries and schools after initially closing on 12 March 2020, but in South Korea students are responding to roll calls from their teachers online as far back as 2020.

With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market. Even before COVID-19, there was already high growth and adoption in education technology, with global edtech investments reaching US$18.66 billion in 2019 and the overall market for online education projected to reach $350 Billion by 2025. Whether it is language apps, virtual tutoring, video conferencing tools, or online learning software, there has been a significant surge in usage since COVID-19. In response to significant demand, many online learning platforms are offering free access to their services, including platforms like BYJU'S, a Bangalore-based educational technology and

online tutoring firm founded in 2011, which is now the world's most highly valued edtech company. Since announcing free live classes on its Think and Learn app, BYJU's has seen a 200% increase in the number of new students using its product, according to MrinalMohit, the company's Chief Operating Officer. Meanwhile, Tencent classroom, has been used extensively since mid-February after the Chinese government instructed a quarter of a billion full-time students to resume their studies through online platforms. This resulted in the largest "online movement" in the history of education with approximately 730,000, or 81% of K12 students, attending classes via the Tencent K-12 Online School in Wuhan.

Other companies are bolstering capabilities to provide a one-stop shop for Teachers and Students. For example, Lark, a Singapore-based collaboration suite initially developed by ByteDance as an internal tool to meet its own exponential growth, began offering Teachers and Students unlimited video conferencing time, auto-translation capabilities, real-time co-editing of project work, and smart calendar scheduling, amongst other features. To do so quickly and in a time of crisis, Lark ramped up its global server Infrastructure and engineering capabilities to ensure reliable connectivity. Alibaba's distance learning solution, DingTalk, had to prepare for a similar influx: "To support large-scale remote work, the platform tapped Alibaba Cloud to deploy more than 100,000 new cloud servers in just two hours– setting a new record for rapid capacity expansion," according to DingTalk CEO, Chen Hang.

Some school districts are forming unique partnerships, like the one between The Los Angeles Unified School District and PBS SoCal/KCET to offer local Educational Broadcasts, with separate channels focused on different ages, and a range of digital options. Media organizations such as the BBC are also powering virtual learning; Bitesize Daily, launched on 20 April,2020 is offered 14 weeks of curriculum-based learning for kids across the UK with celebrities like Manchester City footballer Sergio Aguero teaching some of the content. There have already been successful transitions amongst many Universities. For example, Zhejiang University managed to get more than 5,000 courses online just two weeks into the transition using "DingTalk ZJU". The Imperial College London started offering a course on the science of coronavirus, which is now the most enrolled class launched in 2020 on Coursera. Many are already touting the benefits: Dr.Amjad, a Professor at The University of Jordan who has been using Lark to teach his students says, "It has changed the way of teaching. It enables me to reach out to my students more efficiently and effectively through chat groups, video meetings, voting and also document sharing, especially during this pandemic. My students also find it is easier to communicate on Lark. I will stick to Lark even after coronavirus; I believe traditional offline learning and e-learning can go hand by hand."

Use of audio-visual materials: Dagbisso et al. in Côte d'Ivoire (1999) found that teacher trainers lack the capacity to select and use appropriate audio-visual materials. Another study from Côte d'Ivoire (Anet, 1999) and one from Burkina Faso found that audio-visual materials used in teaching in primary schools increase acquisition of notions and, according to Yameogo (1998, Burkina Faso) encourage children to develop a critical attitude toward media. On new information and communication technologies, several studies (in Cameroon, Gambia, Ghana, Nigeria, and Togo) insisted that teachers should also be trained in the use of computers, Internet, CD ROMS and other new media as well as (Kengne, 2000 in Cameroon) in the use of educational software to develop didactical materials. It was also recommended that teachers, particularly science teachers, also receive training in maintenance and repair of equipment. They should not just be taught the computer, but how to use it in teaching. These recommendations stemmed from general reviews of education reforms and teacher training programs and from literature reviews aimed to inform government policies in the area of new Information and Communication Technologies (ICT) in Education.

The only study based on classroom experimentation came from Nigeria and found that computer-assisted instruction enhanced learners' cognitive achievement in social studies among secondary school learners (Ajelabi, 2000 in Nigeria). Distance learning. Demand for teachers has outpaced supply and untrained contractors are in West and Central African classrooms. Several countries are experimenting the use of

open and distance learning in teacher training to help provide relief. In Senegal, the EcoleNormaleSupérieure is running several such programs, for example via the Centre d'application, d'étudeet de ressources en apprentissage à distance (since 1998). While several studies suggested the value of distance learning, none researched it specifically.

The Challenges of Online Learning

There are, however, challenges to overcome. Some Students without reliable internet access and/or technology struggle to participate in digital learning; this gap is seen across countries and between income brackets within countries. For example, whilst 95% of students in Switzerland, Norway, and Austria have a computer to use for their schoolwork, only 34% in Indonesia do, according to OECD data. In the US, there is a significant gap between those from privileged and disadvantaged backgrounds: whilst virtually all 15-year-olds from a privileged background said they had a computer to work on, nearly 25% of those from disadvantaged backgrounds did not. While some schools and governments have been providing digital equipment to students in need, such as in New South Wales, Australia, many are still concerned that the pandemic will widen the digital divide. For those who do have access to the right technology, there is evidence that learning online can be more effective in a number of ways. Some researches show that on average, students retain 25-60% more material when learning online compared to only 8-10% in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires 40-60% less time to learn than in a traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose. Since studies have shown that children extensively use their senses to learn, making learning fun and effective through use of technology is crucial, according to BYJU's MrinalMohit. "Over a period, we have observed that clever integration of games has demonstrated higher engagement and increased motivation towards learning especially among younger students, making them truly fall in love with learning".

Creativity in Research

Creativity in education can be regarded as the ability to apply multiple and new strategies (Mayer, 1989) and the process of formulating, revising, or retesting hypotheses to solve a problem (Torrance, 1988) for both individuals and Communities. Creativity can be more broadly defined as "the ability to think in different directions, by modifying an original idea with something new and unique that is useful and appropriate to a given situation" (Amabile, 1983). According to Mayer (1989) creativity is the ability to solve problems that one has not previously learned how to solve. Ochse (1990) indicates that creativity involves "bringing something into being that is original (new, unusual, novel, unexpected) and also valuable (useful, good, adaptive, appropriate)". Creativity is a critical skill that helps look at existing problems from a new perspective, see new opportunities and create new ideas. According to Mishra and Henriksen (2018) the three components (Novel, Effective, and Whole) provide a framework for defining creativity:

i. Novel, an idea or product that was not available before
ii. Effective, useful, logical, understandable idea or product
iii. Whole, aesthetic, elegant and well-crafted idea or product

Woods (1990) identified four shared characteristics of creativity and pedagogy to demonstrate that creativity of teaching and teaching creativity were interdependent: relevance, ownership, control and innovation. Sternberg (2006) locates creativity in a combination of "intellectual abilities, knowledge, style of thinking, personality, motivation and environment", a systems approach. Similarly, Craft (2003) proposes that in the context of an uncertain environment and future, it may be useful to consider teaching creatively and creative learning as complementary aspects of an education system within a wider society., and to focus on "the creativity of everyday life or 'little c creativity'" which involves "a life-wide resourcefulness which is effective in successfully enabling the individual to chart a course of action by seeing opportunities as well as overcoming obstacles" (Craft, 2003). This definition applies across the Curriculum and Age ranges, but also allows the possibilities of high art, creative genius or unusual

personalities, and is appropriate to educating children who will become adults in an uncertain world of diminishing resources.

Conclusion

Teaching and Learning continuity amid the pandemic and beyond requires an analysis of the parameters by which the University operates from the perspective of the stakeholders to include the Students, Faculty, Curriculum, and External Stakeholders. Grounded on data, Higher Education Institutions have to conduct strategic scenario analysis for best, possible and worse scenarios in the areas of curriculum and instruction, Student engagement, and technology and infrastructure., Higher Education Institutions need to migrate to flexible Teaching and learning modality by recalibrating the curriculum, capacitating the faculty, and upgrading the infrastructure. These strategic actions have to be continuously assessed, modified, and enhanced to respond to the volatile, uncertain, and changing scenarios in times of crisis.

Recommendations

The disruption of COVID-19 and possible future Pandemic in the educational system is of great magnitude that Universities have to cope with at the soonest possible time. The call is for Higher Education Institutions to develop a resilient learning system using Evidence-Based and Need-Based Information so that responsive and proactive measures can be instituted. Coping with the effects of COVID-19 in Higher Education Institutions demands a variety of perspectives among stakeholders. Consultation needs to include the administration who supports the Teaching-Learning Processes, the students who are the core of the system, the faculty members or teachers who perform various academic roles, parents, and guardians who share the responsibility of learning continuity, the community, and the external partners who contribute to the completion of the educational requirements of the students. In the context of the pandemic, Universities have to start understanding and identifying Medium-Term and Long-Term implications of this phenomenon on teaching, learning, student experience, infrastructure, operation, and staff. Scenario analysis and understanding of the context of each university are necessary to the current challenges they are confronted with (Frankki et al., 2020). Universities have to be resilient in times of crisis. Resiliency in the educational system is the ability to overcome challenges of all kinds–trauma, tragedy, crises, and bounce back stronger, wiser, and more personally powerful (Henderson, 2012). The Educational System must prepare to develop plans to move forward and address the new normal after the crisis. To be resilient, higher education needs to address Teaching and Learning continuity amid and beyond the pandemic. This conference is expected to unravel the needed ideas, research breakthroughs, and possible solutions to enhance education through technological inputs, creativity and innovations.

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EMERGING INNOVATIONS, CREATIVITY AND RESEARCH IN EDUCATION: IMPLICATIONS FOR TEACHERS AND LEARNERS

BY

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Introduction

Innovation, Creativity, and Research are crucial components of any vibrant and dynamic educational system. Today, Creativity and Innovation constitute the main sources of development, leading to both wealth generation and job creation (Alfantookh, 2013). This is because creativity produces knowledge while innovation makes practical utilization of it to provide value.

Research on the other hand, is found to be a crucial component of education that often leads to informedinnovative and creative practices. By conducting rigorous and systematic research, educators can gain a deeper understanding of the complexities of teaching and learning and develop evidence-based practices leading the generation and regeneration knowledge.

Rationale

There are quite a number of literature that supports the blending of innovation, creativity, and research in education:

- It was observed that innovative teaching practices can enhance creativity and critical thinking skills, which are essential for success in the 21st century workforce (Cropley, 2006).
- A review by Hattie (2009), established that research can help identify effective teaching practices, develop curriculum that meets the needs of diverse learners, leading to making wellinformed policy decisions related to education.
- Runco (2014) found that creativity is significantly associated with students' achievement, problem-solving, and divergent thinking
- Furthermore, creativity can help students develop a sense of autonomy and self-efficacy, which can lead to greater motivation and engagement in the learning process (Beghetto& Kaufman, 2014)
- A study by Zhao and Bryant (2017) found that innovative teaching practices, including the use of technology and project-based learning, often lead to increased-student motivation and improve academic achievement.

Emerging Educational Innovations

Emerging educational innovations refer to new and current approaches to teaching and learning that are being developed and implemented in educational institutions around the world.
These innovations are designed to improve the quality of education and enhance learning outcomes by providing more flexible, interactive, and engaging learning experiences for students.

Digital Learning:

This refers to the use of technology to enhance the delivery of educational content. Digital learning can include online courses, virtual reality, simulations, and learning management systems.

Blended Learning:

This combines traditional classroom instruction with online learning activities. Blended learning provides students with more flexibility and allows them to personalize their learning experience.

Gamification:
This involves using computer-based games designed for educational activities to make learning more engaging and interesting for students. Gamification can include leaderboards, badges, quizzes Olympia and problem-solving tasks.

Personalized Learning:
This is an approach to learning that tailor's instruction to the individual needs and interests of each student in the class. Personalized learning can include adaptive learning algorithms, individual learning plans, and flexible pacing.

Project-Based Learning:
This is a student-centered approach to learning that focuses on solving real-world problems or creating products. Projectbased learning helps students develop critical thinking, collaboration, and problem-solving skills.

CHAT GPT - OPEN AI

- ChatGPT stands chatting with a computer programme that is Generative (G), Pretrained (P) and Transformer (T)
- In simple terms, ChatGPT-AI is an application programme interface in the field of computer science that create intelligent machines capable of mimicking human-like cognitive abilities.
- Being an AI involves creating algorithms and models that allow computers to learn from data, make decisions, solve problems, and perform tasks with varying degree of complexity.

APPLICATIONS OF CHAT GPT TO TEACHING

- ChatGPT is capable of imitating or even exceeding human cognitive capacities, including sensing, language interaction, reasoning and analysis, problem solving, and even creativity.
- Lesson Plan
- Definitions of Concepts
- How to Teach.
- Generating Test Items with Solutions
- Providing Variety of Examples
- Generating Class Activities.

CHAT GPT PLUG-IN

- Creating Materials to Cater for Individual Differences
- Provide Better Teaching Methods
- Capacity Building
- Research Purpose For more information on applications of Chat GPT to teaching visit www.https://WGMI.com

1. Designer GPT:
This plugin is for educators to create their website within seconds. The DesignerGPT plugin empowers users to build websites in seconds. Perfect for entrepreneurs and creatives, this ChatGPT plugin generates text and images, and your website is ready to be used in no time. Supposing that you want to create personal blog. Type in your blog name and preferred style. The DesignerGPT will create a ready-to-use website in seconds.

Key Features of Designer GPT

- Website creation within seconds
- Generates text and images
- Seamless integration with other plugins

2. Argil AI:

The Argil AI plugin for ChatGPT is an ideal for artists, designers, and content creators. This plugin generates photorealistic images in a matter of minutes. Supposing you need a professional headshot for your portfolio. Then just provide a photo of yourself, provide a description, and Argil AI will generate a stunning professional photo of you in no time.

Key Features of Argil AI

- Design pictures
- Generate photo
- Create content

3. Summarize This

The Summarize This plugin for ChatGPT condenses video content, answers, questions, and even provides timestamps when needed. Imagine trying to learn a complex concept from a 2-hour video. With Summarize This, you will get a concise overview and timestamps for key points, making your learning process more efficient.

Key Features Summarize This

- Summarizes YouTube videos
- Answers questions about the content
- Provides specific timestamps

4. ChatWithPDF

ChatWithPDF plugin turns any PDF document into an interactive chat. Perfect for students, researchers, and professionals, it allows you to analyze and ask questions directly within the PDF. For example, you're studying for an exam and need clarification on a specific topic within a PDF textbook. ChatWithPDF allows you to ask questions and receive answers without ever leaving the document.

5. Wolfram Chat GPT

The Wolfram plugin visualizes data, create charts, solve advanced mathematics problems and many more. Wolfram plugin for c is an ideal tool for students, data analysts, and researchers.

Key Features of Wolfram

- Data visualization
- Advanced math problem-solving
- Chart creation

The Twinkl apps (https://www.twinkl.com.ng/apps,2023) are developed by teams of skilled professional educators. The aim of Twinkl is to develop apps that could deliver tangible educational benefits to all stakeholders in education. They create important designs and use technology to match clear educational outcomes. The Twinkl apps allow you to plan, teach, learn, search, browse,save, print and download. Twinkl has over 600,000 resources that can be accessed freely and downloaded.

CREATIVE RESOURCES FOR EDUCATIONAL RESEARCHERS

- Tome
- Human Pal
- Pictory
- Google Drive
- Google Meet
- Quillbot

BASIC REQUIREMENTS

Zoom
Soomus
Good Connectivity
Good Smart, Android Phones and Computers
Reasonable Size of HDand Ram
Functional Apps e.g Microsoft Suite.
Stable Power

THE DONT'S

Remember that Chat GPT is just to assist educators. Therefore do not:

1. Use Chat GPT-based document without additional verification
2. Be guided by the National Curriculum or BMASwhen using Chat GPTduring content development or test item development
3. Parapraisedocument to above litigation
4. Duly acknowledge Chat GPT-based materials

LIMITATIONS

- Inaccurate Information or Useless Data
- There are concerns about gender and other forms of discrimination observed with ChatGPT. On the one hand, this reflects the lack of female participation in subjects related to AI and in research/development on AI and on the other hand, the power of generative AI to produce and disseminate content that discriminates or biased.
- There is lack of policy to control Chat GPT especially for ethical consideration.
- Chatgpt.open.ai can provide answers to queries using existing knowledge up 2021.
- Election results can be manipulated with Chat GPT.

BENEFITS OF EDUCATIONAL INNOVATIONS

a. **Improved Access:** Educational innovations like digital learning and blended learning can make education more accessible to students who may not have access to traditional educational resources.
b. **Increased Engagement:** Educational innovations like gamification and project-based learning can increase student engagement and motivation by making learning more interesting and interactive.
c. **Personalization:** Educational innovations like personalized learning can tailor instruction to the individual needs and interests of each student, which can improve learning outcomes.
d. **Flexibility:** Educational innovations like blended learning and personalized learning can provide students with more flexibility in how they learn and when they learn.

CHALLENGES OF EDUCATIONAL INNOVATIONS

a. **Technology:** Many educational innovations rely on technology, which can be expensive, require training, and may not be accessible to most students.
b. **Implementation:** Implementing educational innovations can be challenging and require significant changes from the traditional educational practices.
c. **Assessment:** It can be challenging to assess the effectiveness of educational innovations and measure the learning outcomes.
d. **Equity:** There is a risk that educational innovations may widen the equity gap between students who have access to technology and resources and those who do not.

TRENDS OF FUTURE INNOVATIONS

- Gemini(Generative Enhanced Multimodal Intelligent Network Interface) By Google.
- XAIby Elon Musk
- ENIEby Baidu

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EMERGING EDUCATIONAL INNOVATIONS FOR TRANSFORMATION IN TEACHING AND LEARNING

BY

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Preamble

Our gathering at this conference is consistent with the provisions of the National Policy on Education (NPE) which says, *"education is an instrument for national development; to this end, the formulation of ideas, their integration for national development, and the interaction of persons and ideas are all aspects of education"* (2004, p.6).

Context: Outmoded Pedagogical Paradigms

- The traditional lecture method of dispensing education is gradually becoming outmoded due to its inherent passivity and abstraction.
- This is particularly the case with science and technical courses where the lecture method does not guarantee adequate conceptual and practical gains for students, leaving too much to the imagination.

Pedagogical Paradigm Shift

- The modern educational setting is gradually becoming infused with new pedagogical approaches to learning.
- The availability of new technologies is increasing and changing the ways we communicate with others. People interact in new ways with ideas that were previously obscured by geographical, economic, or social boundaries
- A global knowledge-based society is opening access to information to increase our knowledge base and entertain ourselves.
- There is increasing need for skilled workers who can transform information to meaningful new knowledge and jobs for development.

Global Trend Drivers

- The phenomenon of globalization and technology compels schools, teachers, and students to compete on a global scale.

  The COVID-19 pandemic in 2020 also posed a serious challenge to schools. Schools are increasingly faced with the challenge of preparing students for life in a changing society and need to provide opportunities for teachers and students to incorporate new technologies as part of their teaching and learning experiences.

Transformative Education Ecosystem

Organization

Learners

Teachers

Content

Resources

Innovative Teaching and Learning Technologies

There are several emerging education innovations that have the potential to transform teaching and learning, making education more engaging, interactive, and effective. Some of these innovations include:

- This approach involves tailoring instruction to meet the specific needs and interests of individual learners.
- Using data analytics and adaptive learning technology, teachers can create customized learning plans that are optimized for each student's unique learning style and pace.
  Gamification involves using game elements, such as points, badges, and leader boards, to motivate and engage learners.
- By incorporating game-like activities into the curriculum, teachers can make learning more fun and interactive, while also promoting teamwork and collaboration.

Virtual and Augmented Reality
Virtual and augmented reality technologies allow students to explore immersive and interactive digital environments, bringing abstract concepts to life and making learning more engaging and memorable.

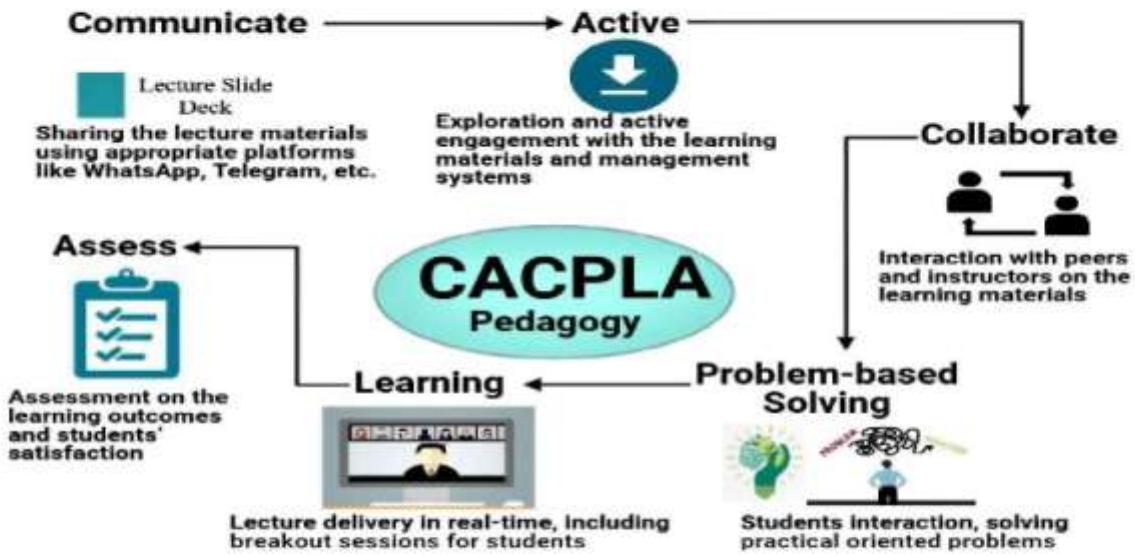
Artificial Intelligence (AI)
AI-based tools can help teachers personalize instruction, analyze student performance, and provide realtime feedback to help students improve their learning outcomes.

Mobile Learning
Mobile devices, such as Smartphone's and tablets, offer new opportunities for anytime, anywhere learning, allowing students to access educational materials and resources on the go.

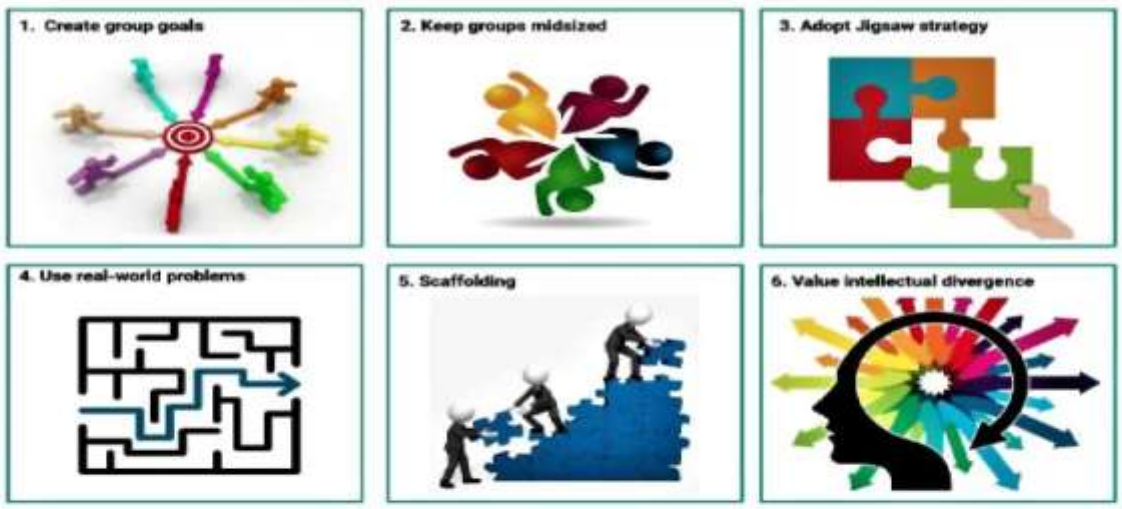
Virtual Laboratories
Virtual labs are interactive, digital simulations of activities that typically take place in physical laboratory settings. Virtual labs simulate the tools, equipment, tests, and procedures used in science disciplines.
Overall, these emerging education innovations have the potential to revolutionize teaching and learning, helping educators to create more engaging, interactive, and effective learning experiences for their students.

ACENPEE: Innovation in Teaching and Learning
World Bank/AFD funded ACE Impact project 54
ACE Impact Centres in 12 African Countries with
17 Centres in Nigeria 2 Centres in ABU
- Result-based funding project - You earn money only after you have achieved results

CACPLA: Communicate, Active, Collaborate, Problem-based solving, Learning, and Assessment
We developed a new pedagogy, CACPLA - Transition from our conventional classroom teaching to blended instruction for some of our engineering courses. CHAPL; DLPCA



Six tips for collaborative learning as embedded in the CACPLA pedagogy



CACPLA: Communicate, Active, Collaborate, Problem-based solving, Learning and Assessment

Modified Jigsaws-CACPLA pedagogy

Learner's Satisfaction Survey

Comments from Learners Satisfaction Survey

> ***Comment 1:*** *"Satisfactory and time-efficient"*

> ***Comment 2:*** *I was able to sign in, but couldn't watch the video completely, due to poor network service or too much congestion. Although, the tests were interesting because the questions were based on the slides given. Thank you!"*

> ***Comment 3:*** *"My suggestion is that this method should not be applied to other courses because sometimes you will like to see your lecturer in your presence when you are asking him some questions because it enables you to understand him more. "*

> ***Comment 4:*** *" In my perspective, I think the online teaching method is awesome and should truly be applied to other courses if not for the issues of the unstable network but I feel it is a welcome development"*

y ***Comment 5:*** *"It's a nice teaching method but will be a bit tough for mathematical courses. The rate of understanding differs among individuals*

EFFECT OF MULTIMEDIA RESOURCES ON PUPILS RETAIN IN SOCIAL STUDIES IN GIWA EDUCATION ZONE, KADUNA STATE, NIGERIA

BY

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&

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Abstract
The 21st century has witnessed a great deal of technological advancement that has reshaped the pedagogical practices in our classrooms. However, much has not been researched on the effect of technology-based instructional aids on pupils' retention. This study therefore examined the effect of multimedia resources on pupils' retention in Social Studies in Giwa Education Zone, Kaduna State Nigeria. Quasi-experimental research design was used. The population of the study consisted of all primary school pupils in Giwa Education Zone, Kaduna state, numbering 106,861. The study used purposively sampling technique to choose the participating schools for the experiment. The study also used Social Studies Pupils Academic Performance Test (SOSPAPT) as data collection instruments. The instrument was validated by experts for content and construct validity. The study pilot tested the instrument and the index power stood at 0.76. One-way analysis of variance was used as data analysis instrument. It was found that significant difference existed in the mean retention level of male and female pupils taught Social Studies using multimedia resources when compared to traditional method in Giwa Education Zone, Kaduna State. The study made some recommendations among which are, there is need for Kaduna State Government to build and equip computer laboratories in each primary school in the state and the need to use Multimedia resources as it improves students' academic performance and retention of all sex. There should also be training of teachers in computer utilization in teaching both short-term and in-service training for teachers.

Keywords: Retention, Gender, Social Studies, Pupils, Multimedia Resources.

Introduction

The purpose of education is to develop knowledge, skills and character of students. Thus, education is the process of learning and knowing, which is not restricted to schools or textbooks. Education is very important for an individual's life. According to Salihu (2015), education is a major aspect of development of any modern society. The importance of education is evident at every stage of education whether at primary, Junior Secondary, Senior Secondary and in Higher education. The purpose of learning and teaching resources is to provide a source of learning experiences for students. Learning and teaching resources should be able to facilitate interaction among students and teachers during the learning/ teaching process, as well as to help students to learn, broaden students' learning experiences and meet different learning needs. If used effectively, learning and teaching resources can help students to construct knowledge for themselves and develop effective learning strategies, generic skills, values and attitudes, thus laying a solid foundation for life-long learning (Bryan and William 2016).

There are techniques that encourage the development of creativity, ability or provide experience not easily secured in any other way. These techniques are embedded in the use of Information and Communication Technology (ICT). Application of Information and Communication Technology (ICT) in teaching and learning has been widespread and popular with students and teachers and it promotes learning and teaching skills. One of the interesting aspects of ICT application is Multimedia resources. By multimedia resources,

educators usually refer to the using of multimedia and Information Communication Technology (ICT) equipment which offer an effective dialogue between the resource materials- indirectly with the instructor and the students in comparison with traditional methods of teaching which may lack such interactivity (Nusir, Alsmadi, Al-kabi, and Shardqah, 2011). Moreover, multimedia has the potential to create high quality learning environments especially for students, with the capability of creating a more pragmatic learning context through its different medias- texts, graphics, sound, animation among others. Multimedia resources have paramount importance in teaching (Altherr, Wagner, Eckert, &Jodl, 2014). With the help of multimedia, one can present different phenomena and processes vividly, simulate complex content, and present different levels of abstraction. This helps in meaningful and authentic learning. Multimedia resources are useful especially when students have low motivation and low prior knowledge (Singh, 2013).

This is an era of science and technology which are the backbone for the prosperity of a nation. Nigeria's education policies emphasized functional education for learners at all levels to trigger students' curiosity in scientific inquiry and understanding of scientific concepts and processes. The current teaching strategies have failed to enhance problem-solving skills, curiosity, and critical and logical thinking among pupils. There is a need to move from traditional approaches to more innovative information and communications technologies (ICTs) enriched approaches for meaningful learning. The fast-paced, diverse, and technologically advanced world has posed challenges for both teachers and students. The use of ICTs in the teaching and learning process has become an important feature. Multimedia-aided teaching (MAT) is a means of instructional delivery usually used with the traditional method of teaching (Rolfe & Gray, 2011). It is a presentation consisting of words, sound, and pictures that is designed for meaningful learning (Mayer, 2015a; 2015b; 2015c).

However, it is apparent that many of today's teachers of Social Studies at primary schools are caught in the midst of a change for which they may not have been professionally prepared. Many teachers were educated in the classrooms where the role of the student was to memorize information, conduct well-regulated experiments etc. and were then tested on their ability to repeat these tasks or remember specific facts. It is against this background that this study examines the effect of multimedia resources on pupils' retention in Social Studies in Giwa Education Zone, Kaduna State, Nigeria.

Objective of the Study

The main objective of the study is to examine the effect of multimedia resources on pupils' retention in Social Studies in Giwa Education Zone, Kaduna State, Nigeria. The study was guided by the following specific objective which is to:

i. Determine the differences in mean retention score of pupils in relation to gender taught Social Studies using multimedia resources and their counterparts taught using traditional method in Giwa Education Zone, Kaduna State, Nigeria.

Research Question

The study answered the following research question:

i. What is the difference in the mean retention score between male and female pupils taught Social Studies using multimedia resources and their counterparts taught using traditional method in Giwa Education Zone, Kaduna State, Nigeria?

Null Hypothesis

The following null hypothesis is stated and was tested at $p \leq 0.05$ level of significance:

H01: There is no significant difference in the mean retention score between male and female pupils taught Social Studies using multimedia resources and their counterparts taught using traditional method in Giwa Education Zone, Kaduna State, Nigeria.

Methodology

The design of the study was Quasi-experimental. This study used the non-equivalent pre and posttest comparison group design. According to Salihu (2015), the design requires a pretest and post-test for a treated and comparison group. It is a design in which the effect of a treated or intervention are estimated by comparing outcomes of a treatment group and a comparison group but without the benefit of random assignment (Salihu, 2015). The design is presented below:

$EG \rightarrow O1 \rightarrow X1 \rightarrow O_2 \rightarrow O_3$

$CG \rightarrow O1 \rightarrow X_0 \rightarrow O_2 \rightarrow O3$

The population of this study consisted of all primary school pupils in Giwa Zone, Kaduna State, Nigeria. There were 106,860 pupils consisting of 62,135 male and 44,726 female divided into 21 clusters. There are 210 public primary schools in the Zone based on the official data obtained in April 2017, from State Universal Basic Education Board (SUBEB), Giwa Local Government, Kaduna State, Nigeria. The study therefore used purposive sampling to choose the participating schools for the Quasi-experiment. Intact classes of three hundred and eighty-nine (389) students were used out of the total population. The choice of the intact class was done in order not to disrupt the normal teaching and learning of academic activities in the sampled schools which may not be welcomed by school authorities. Primary 6A was used as experimental and 6B was used for control in all the four schools out of the total number of 210 schools in the study area. The schools selected were Model Primary School, Giwa; Model Primary School, Kidandan; Model Primary School, Shika and LGEA, Guga-Sabuwa. This study used two teacher-made tests known as 'Social Studies Pupils' Retention Test (SOSPRET) as an instrument used for the purpose of testing the retention ability of pupils. The (SOSPRET) consisted of 30 objective test items designed to measure the effect of multimedia resources on pupils' retention in Social Studies in Giwa Education Zone, Kaduna State, Nigeria. The instrument covered the concept of culture, its types and examples extracted from primary VI syllabus.The study used a table of specification to determine the content and construct validity of the test items aside experts vetting. Table of a specification according to Yerima (2015); Salihu (2015) is a two-way dimensional table which defines clearly as possible the scope and emphasis of the test items and to relate the objectives to the content**,** so as to satisfy the most important criteria of the test and that of content validity. The pilot test was conducted at Staff School, Ahmadu Bello University, Zaria, using 30 pupils. The instrument was administered once. The Guttman Split Half procedure for finding the internal consistency of the items was used. Consequently, the reliability coefficient of 0.67 was obtained from the data. Therefore, the result 0.670 was found to be reliable and suitable for the main study in line with Olayiwola (2011) assertion.The study's research question was answered using arithmetic mean and standard deviation. Two Way Analysis of Variance was used in testing the null hypothesis.

The researcher and two trained research assistants who were selected based on competence (in multimedia handling and application) were allowed to use Primary 6 Social Studies lesson periods with the close collaboration of the subject teachers from the sampled schools. The pupils were pretested using the designed teacher-made tests. This was aimed at ascertaining the pupils' prior knowledge on the topics or the test items. The researcher and the research assistant used another Social Studies lesson period to teach the control group. The pupils (experimental and control groups) were pre-tested before receiving any kind of treatment by the researcher. The post-test was administered after the experimental and control groups had undergone their separate treatment using the same topics. The outcomes of the various encounters in the form of test scores were then subjected to appropriate statistical analysis which supported the study to answer its research question and test the study's null hypothesis. Moreover, after adequate preparations, the researcher with the permission of the school management used the relevant available multimedia resources in the school and brought in those that are not available. It was aimed at giving the pupils first-hand information and practical experience on the topic chosen. This was a post-test for the experimental group. The test papers were marked over (30). The test scores for the pre and post-tests for both groups were then

collated for comparison's sake using the appropriate statistical procedure. The whole data collection procedure lasted for eight (8) weeks.

Results

Research Question One: What is the difference in the mean retention scores between male and female pupils taught Social Studies using multimedia resources and pupils taught using traditional method among primary schools in Giwa Education Zone, Kaduna state?

Table 1: Mean retention level of male and female pupils in the experimental and control groups

Sex	Group	Mean	Std. Deviation	N
Male	1 experimental	21.35	6.494	77
	2 control	15.64	4.687	137
	Total	**17.69**	**6.053**	**214**
Female	1 experimental	17.11	5.387	64
	2 control	14.59	4.950	111
	Total	**15.51**	**5.242**	**175**
Total	1 experimental	19.43	6.360	141
	2 control	15.17	4.825	248
	Total	**16.71**	**5.798**	**389**

Table 1 presents the means and standard deviations for the male and female pupils that made up the experimental and control groups that were used in this study. The mean retention score of male pupils in the experimental group (M=21.35, SD=6.494) was high than (M=15.64, SD=4.687) for the control group. Again, the mean retention score of female pupils in the experimental group (M=17.11, SD=5.387) was high than (M=14.59, SD=4.950) for the control group. The overall mean retention score for the male and female pupils in the experimental groups (M=19.43, SD=6.360) was higher than (M=15.17, SD=4.825) for the control group. Therefore, the male and female pupils in the experimental group performed better than their counterparts in the control group. This shows that male and female pupils taught Social Studies using multimedia resources were able to retain most of the concepts than pupils taught using traditional method in Giwa Education Zone, Kaduna State.

Null Hypothesis One: There is no significant difference in the mean retention scores between male and female pupils taught Social Studies using multimedia resources and pupils taught using traditional method among primary schools in Giwa Education Zone, Kaduna state.

Table 2: Summary of two-way ANOVA on mean retention level of male and female pupils in the experimental and control groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2327.719[a]	3	775.906	27.875	.000	.178
Intercept	105008.916	1	105008.916	3772.556	.000	.907
Gender	623.143	1	623.143	22.387	.000	.055
Group	1511.294	1	1511.294	54.295	.000	.124
gender * group	226.796	1	226.796	8.148	.005	.021
Error	10716.456	385	27.835			
Total	121656.000	389				
Corrected Total	13044.175	388				

R Squared = .178 (Adjusted R Squared = .172)

Table 2 presents the results of two-way analysis of variance on mean retention scores of male and female pupils in the experimental and control groups. The analysis revealed that for the gender, the F (1,385) =22.387, p=0.001; revealed a significant difference between the male and female pupils retention level. The null hypothesis which stated no significant difference between male and female retention level was rejected. Again, the analysis revealed that for the treatment, the F (1,385) =54.295, p=0.001; revealed a significant difference between the experimental and control groups pupils' retention level. The null hypothesis which stated no significant difference between male and female retention level was rejected.

When gender and treatment were compared, the analysis revealed that F (1,385) =8.148, p=0.005; shows a significant difference between the male and female pupils in the experimental and control group retention level. The null hypothesis which stated no significant difference between male and female pupils in the experimental and control group retention level was rejected. Therefore, there was a significant difference in the mean retention level between male and female pupils taught Social Studies using multimedia resources and pupils taught using traditional method. That is, there was a significant difference in the mean retention level of male and female pupils taught Social Studies using multimedia resources than pupils taught using traditional method in Giwa Education Zone, Kaduna State.

Findings

It was found that significant difference was found in the mean retention score of male and female pupils taught Social Studies using multimedia resources and pupils taught using traditional method in Giwa Education Zone, Kaduna State in favour of the experimental group. By implication, pupils taught Social Studies using multimedia resources were able to retain more facts than those who were taught using traditional method; and that male pupils had better retention ability than their female counterparts.

Discussions

It was found that significant difference was found in the mean academic performance score of male and female pupils taught Social Studies using multimedia resources and pupils taught using traditional method in Giwa Education Zone, Kaduna State in favour of the experimental group. By implication, pupils taught Social Studies using multimedia resources outperformed their counterparts who were taught using traditional method; and that male pupils had better academic performance scores than their female counterparts.

Contrasting the current findings, Algerioy (2016) study found out no statistically significant differences, between the average achievement of the experimental group students and those belonging to the control group, in remembrance, understanding and application level. Similarly, Losike-Sedimo (2016) study show that there are numerous benefits for engaging multimedia in teaching. The study concludes that there is a need for changing teaching methods to empower students by embracing technology. Reis (2011) study indicate that the standard video player was the most effective overall, which suggests that media designs able to control the focus of a learner's attention to one specific stream of information, a single-stream focused approach, maybe the most effective way to present media-based content.

Supporting the current finding, Adedapo, Salawu and Afolabi (2011) study showed that there was a significant difference in the students' cognitive achievement and interest in Economics which were mostly enhanced by the video-taped strategy, followed by audiotaped strategy and minimally by the conventional strategy. In a related development Akerele and Ajayi's (2012) study shows that when using video in teaching, it enhances learners' positive attitude toward the course. Also, it affects their performance positively. Similarly, Alabi's (2014) study showed that the videotape mediated instruction package tested were effective in the learning of Social Studies and had great improvement on the students' performance after exposed to this media packages it is therefore recommended that teachers should try to get this package to make their teaching more effective.

Similarly, Yahaya's (2015) study as lend credence to the current study as it discovered a significant difference between the academic performance of the experimental and the comparison groups. By implication students taught with lecture technique supplemented by Multimedia resources out-performed their counterparts taught with lecture technique only. The study discovered that gender does not affect the performances of the experimental group signifying that the students that were taught with lecture technique aided by multimedia resources responded well irrespective of their gender.

Conclusion

In the light of the foregoing, it is concluded that multimedia resources enhance the retention ability of male and female pupils taught Social Studies better than pupils taught using the traditional method. In fact, the study has established that male pupils would perform better than female pupils when both are exposed to learning supported by multimedia resources. This could be due to male's natural inclination towards tech than females.

Recommendations

In view of the findings, it is recommended that:

i. There is the need for Kaduna State Government to build and equipped computer laboratories in all the primary schools in the state. This will assist in effective utilization of multimedia technologies as a viable instructional strategy for the 21st-century teaching and learning;

ii. There should be training and retraining of Social Studies teachers on computer applications especially on multimedia resources;

iii. The use of Multimedia resources should be emphasized as it improves students' academic performance and retention of all sex.

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33

ENSURING ROBUST SERVER SECURITY FOR LIBRARY APPLICATION SOFTWARE IN ACADEMIC LIBRARIES IN NIGERIA

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Abstract
Ensuring robust server security is essential for library application software. This article will explore some of the common security threats that servers face and provide recommendations for how to protect against them. This article discuss the importance of regularly updating server software and operating systems, implementing firewalls and intrusion detection systems, using strong passwords and two-factor authentication, encrypting sensitive data, and regularly backing up data. By following these recommendations, libraries can ensure that their application software is secure and protected against common security threats.

Keywords: Library application software, server security, host security.

Introduction
As digitization takes hold across various industries, libraries are also embracing technological advancements by adopting library application software eg. Koha, OPAC, Invenio, NewGenLib, CODEACHI, D-space, Librarian. These software solutions facilitate various library operations, such as cataloging books, managing memberships, archiving and automating lending processes. However, with the increasing reliance on these systems, safeguarding the server becomes paramount to protect sensitive data, ensure uninterrupted service, and maintain the trust of library users. This article will explore the importance of server security for library application software and the best practices to mitigate potential threats.

Libraries rely on application software to manage their collections and provide services to patrons. This software is often hosted on servers that are connected to the internet, making them vulnerable to security threats. Ensuring robust server security is essential for library application software. This article will explore some of the common security threats that servers face and provide recommendations on how to protect against them.

According to National Security Agency (2022) Guidance for securing networks continues to evolve as adversaries exploit new vulnerabilities, new security features are implemented, and new methods of securing devices are identified. Improper configurations, incorrect handling of configurations and weak encryption keys can expose vulnerabilities in the entire network. All networks are at risk of compromise,

especially if devices are not properly configured and maintained. An administrator's role is critical to securing the network against adversarial techniques and requires dedicated people to secure the devices, applications, and information on the network.

Organizations should implement appropriate security management practices and controls when maintaining and operating a secure server.

According to the National Institute of Standards and Technology (2023) Appropriate management practices are essential to operating and maintaining a secure server. Security practices entail the identification of an organization's information system assets and the development, documentation, and implementation of policies, standards, procedures, and guidelines that help to ensure the confidentiality, integrity, and availability of information system resources. To ensure the security of a server and the supporting network infrastructure, the following practices should be implemented:

- Organization-wide information system security policy
- Configuration/change control and management
- Risk assessment and management
- Standardized software configurations that satisfy the information system security policy
- Security awareness and training
- Contingency planning, continuity of operations, and disaster recovery planning
- Certification and accreditation.

Regularly Updating Server Software and Operating Systems

One of the most important steps in ensuring robust server security is regularly updating server software and operating systems. This ensures that all security patches are installed and that any vulnerabilities are addressed. Libraries should have a process in place for regularly checking for updates and installing them as soon as possible.

Server Vulnerabilities, Threats, and Environments

To secure a server, it is essential to first define the threats that must be mitigated. Knowledge of potential threats is important to understanding the reasons behind the various baseline technical security practices presented in this document. Many threats against data and resources are possible because of mistakes—either bugs in operating system and server software that create exploitable vulnerabilities, or errors made by end users and administrators. Threats may involve intentional actors (e.g., attacker who wants to access information on a server) or unintentional actors (e.g., administrator who forgets to disable user accounts of a former employee.) Threats can be local, such as a disgruntled employee, or remote, such as an attacker in another geographical area. Organizations should conduct risk assessments to identify the specific threats against their servers and determine the effectiveness of existing security controls in counteracting the threats; they then should perform risk mitigation to decide what additional measures (if any) should be implemented, as discussed in NIST Special Publication (SP) 800-30, Risk Assessment Guide for Information Technology Systems. Performing risk assessments and mitigation helps organizations better understand their security posture and decide how their servers should be secured.

Implementing Firewalls and Intrusion Detection Systems on the software's and the databases of the libraries

Firewalls and intrusion detection systems can help prevent unauthorized access to servers. Firewalls can be used to block traffic from known malicious IP addresses or to restrict access to specific ports. Intrusion detection systems can be used to monitor server logs for suspicious activity and alert administrators when potential security breaches are detected.

Using Strong Passwords and Two-Factor Authentication

Using strong passwords and two-factor authentication can help protect against brute-force attacks. Strong passwords should be at least 12 characters long and include a mix of upper- and lower-case letters,

numbers, and symbols. Two-factor authentication requires users to provide two forms of identification before accessing a server, such as a password and a code sent to their mobile device.

Encrypting Sensitive Data

Encrypting sensitive data can help prevent unauthorized access. Libraries should use encryption to protect sensitive data such as patron information, financial data, and other confidential information, open access information.

Regularly Backing Up Data

Regularly backing up data can help prevent data loss in case of a security breach. Libraries should have a process in place for regularly backing up data and storing backups off-site. One of the most important functions of a server administrator is to maintain the integrity of the data on the server. This is important because servers are often some of the most exposed and vital hosts on an organization's network. The server administrator needs to perform backups of the server on a regular basis for several reasons. A server could fail as a result of a malicious or unintentional act or a hardware or software failure. In addition, Federal agencies and many other organizations are governed by regulations on the backup and archiving of server data. Server data should also be backed up regularly for legal and financial reasons. There are several common security threats to servers. Some of these include:

- **User carelessness:** This is the most prevalent threat to a server's security. If users have passwords that are easy to guess, poorly written code, unpatched software, or a lack of security measures like anti-virus software, it can lead to security breaches.
- **Malware:** Malware is a term used to describe any software that is designed to cause harm to a computer system or network. It is an umbrella term that includes viruses, worms, Trojan horses, spyware, adware, and ransomware. Malware can be used to steal data, damage or destroy computers and computer systems. Malware is malicious software that can infect servers and cause damage. Malware can be introduced through email attachments, downloads from untrusted websites, or other means.
- **Phishing attacks:** Phishing attacks are attempts to trick users into revealing sensitive information such as usernames and passwords. These attacks can be carried out through email, social media, or other means Distributed denial-of-service (DDoS) attacks: DDoS attacks are attempts to overwhelm a server with traffic in order to make it unavailable. These attacks can be carried out by botnets or other means whereas the measures to be taken are as follows. There are several security measures that can be taken to ensure robust server security for library application software. Some of these measures include:

i. Regularly updating the server software and operating system to ensure that all security patches are installed.
ii. Implementing firewalls and intrusion detection systems to prevent unauthorized access.
iii. Using strong passwords and two-factor authentication to protect against brute-force attacks.
iv. Encrypting sensitive data to prevent unauthorized access.
v. Regularly backing up data to prevent data loss in case of a security breach.

These are just a few examples of the many security measures that can be taken. You can find more information on recommended security measures to protect your servers.

Importance of Server Security

Protecting Patrons' Personally Identifiable Information (PII)

Library application software contains extensive user data, including names, addresses, contact details, and borrowing histories. Robust server security prevents unauthorized access and protects this sensitive information from potential breaches that could lead to identity theft or privacy violations.

Safeguarding Database Integrity
Library software relies on a database for storing information related to books, patrons, and transactions. This database constitutes the bedrock of the library application and must be protected against unauthorized modifications or deletions. Server security measures play a vital role in preserving data integrity and preventing any potential manipulation.

Ensuring System Availability
A secure server minimizes the risk of system downtime due to server breaches, malicious hacking attempts, or denial-of-service attacks. By implementing robust server security, library management can ensure uninterrupted services and maintain a seamless experience for users.

Best Practices for Server Security
Regular and Secure Data Backups: Frequent and encrypted backups are critical to reducing the impact of any potential security breaches. By diligently backing up the data, library administrators can prevent significant data loss and expedite system recovery in the event of an attack. Furthermore Regular and secure data backups are essential for ensuring that data is not lost in case of a security breach. There are several strategies that can be used to ensure regular and secure data backups. One of the most important strategies is to follow the rule: store three copies of your data on two different devices with one copy stored off-site. This ensures that even if one copy of the data is lost or destroyed, there are still two other copies available.

Other strategies for ensuring regular and secure data backups include implementing frequent, regular backups (preferably at least every 24 hours), using encryption to protect backups (particularly those stored in the cloud), and using external hard drives or other backup devices. By following these strategies, libraries can ensure that their data is regularly backed up and protected against common security threats.

Implementing Strong Authentication Measures:
Adopting strong authentication methods, such as multi-factor authentication, helps protect against unauthorized access to the server. Library staff should be encouraged to use strong, unique passwords and periodically update them. Additionally, limiting administrative access and implementing role-based access controls minimize the risk of internal breaches. Strong authentication measures are essential for ensuring that servers are secure. Strong authentication is a way of confirming a user's identity when passwords are not enough. Most companies demand proof before allowing access to digital assets. Strong authentication techniques put security first by adding a few extra hoops to ensure that users are who they say they are and access only what has been deemed appropriate1. Some best practices for implementing strong authentication measures include:

- Adapting or transitioning to passwordless authentication
- Deploying an access management system to enforce authentication and authorization policies.
- Using modern multi-step authentication techniques, like adaptive MFA, biometric authentication, or token-based authentication to strengthen login.
- Securing the account-recovery process 2.

By following these best practices, libraries can ensure that their servers are secure and protected against common security threats.

Updating Server Software Regularly:
Outdated server software can expose libraries to known vulnerabilities, making them susceptible to hacking attempts. Regular updates ensure that security patches and bug fixes are implemented promptly, reducing the chances of exploitation.

Encrypting Data Transmission:
Utilizing secure protocols, such as HTTPS and SSL/TLS, for data transmission between the library application and users is a fundamental security measure. Encryption ensures that sensitive data is protected during transmission, shielding it from potential interception by malicious entities.

Conducting Regular Security Audits:
Regular server security audits help identify potential vulnerabilities and gaps in controls. These audits can be performed by independent security experts or internal personnel to assess the effectiveness of existing security measures and take corrective actions.

Server Data Backup Policies
All organizations need to create a server data backup policy. Three main factors influence the contents of this policy:

Legal requirements
- Applicable laws and regulations (Federal, state, and international) –
  Litigation requirements

Mission requirements
- Contractual
- Accepted practices
- Criticality of data to organization

Organizational guidelines and policies
Although each organization's server backup policy will be different to reflect its particular environment, it should address the following issues:

i. Purpose of the policy
ii. Parties affected by the policy
iii. Servers covered by the policy
iv. Definitions of key terms, especially legal and technical
v. Detailed requirements from the legal, business, and organization's perspective
vi. Required frequency of backups

Conclusion
Server security for library application software is crucial for protecting personal user information, preserving data integrity, and ensuring system availability. By adopting best practices like regular data backups, strong authentication methods, timely software updates, encryption during data transmission, and thorough security audits, libraries can safeguard sensitive information and maintain a trusted, secure environment for both staff and patrons. Prioritizing server security not only protects libraries from potential breaches but also ensures the uninterrupted functioning of library operations in an increasingly digital world.

Ensuring robust server security is essential for library application software. By regularly updating server software and operating systems, implementing firewalls and intrusion detection systems, using strong passwords and two-factor authentication, encrypting sensitive data, and regularly backing up data, libraries can protect against common security threats.

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COMPUTER-ASSISTED VERSUS FACE-TO-FACE INSTRUCTIONAL MODES IN TEACHING ENGLISH AS A SECOND LANGUAGE: AN ANALYSIS OF STUDENTS' PREFERENCES

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Abstract
This study investigated the preferred instructional modes of English as a Second Language (ESL) students in Nigeria. Specifically, it aimed to find out whether Nigerian ESL students preferred to be taught English language and skills through the computer-assisted instruction (CAI) or through the traditional face-to-face (F2F) instructional mode. The study used a sequential explanatory mixed methods research design. Data for the quantitative phase were collected via a survey administered to 70 randomly selected participants from a school of technology in Nigeria in the first semester of 2021/2022 academic session. Using a nested sampling technique, data for the qualitative phase were purposively collected from 29% of the quantitative sample. Results of the survey were analyzed using descriptive statistics. Quantitative findings revealed that the participants showed an overwhelming preference for F2F instructional mode in learning all aspects of English language. They also preferred paper-based tests (PBTs) to computer-based tests (CBTs). Qualitative results from the interviews corroborated the quantitative findings and gave reasons for the participants' preference of the F2F mode. The study recommended that educators need to have a proper understanding of students' learning preferences to develop appropriate pedagogies and avoid introducing teaching methods that are detrimental to students' preferred instructional modes.

Keywords: Computer-assisted instruction (CAI); computer-based test (CBT); face-to-face instruction (F2F); instructional mode; paper-based test (PBT).

Introduction

This study examined English as a Second Language (ESL) students' preferred instructional modes for learning English language and skills. Specifically, it investigated whether Nigerian ESL students preferred to be taught English language and skills through the traditional face-to-face (F2F) mode or through computer-assisted instruction (CAI) mode. It also seeks to find out whether they prefer paper-based tests (PBTs) to computer-based tests (CBTs) and the reasons for their preferences.

The 21st century has witnessed huge and unprecedented penetration of modern technology in all aspects of life. No part of life is insulated from or unaffected by digital and technological revolution. It is on this basis that Thorne and Smith (2011) affirmed that information and communication technologies have never been more interesting largely due to their integration into everyday life. Likewise, the teaching and learning of English (either as L1, L2 or FL) in this century have been greatly influenced by different types of digital technologies, including computers, which are universally believed to be key factors in language learning processes, effective teaching aids, and useful tools for enhancing language learning (Arishi, 2012; Motteram, 2013). In fact, Jones (2016) argues that only few people will disagree with the assertion that "digital technology is a 'game changer' as far as language learning is concerned" (p. 1).

The F2F-CAI debate leads to a controversy regarding the best or the most effective instructional mode for teaching languages. On the one hand, there are those who argue that CAI is the most ideal mode of teaching. They submit that since digital technologies have taken hold of the society in general, technology-mediated learning is the most suitable instructional mode for the present-day students. They further argue that 'technological hegemony' has led to a paradigm shift from the instructional teacher-centered approaches to technology-mediated learning, which is believed to develop the learner and facilitate the learning process in general. Proponents of this view include Bangert-Drowns (1993), Kademi (2021),

Mahmoudi and Razaq (2012), Rice et al. (2013), Thorne and Smith (2011), and Zaini and Mazdayasna (2015). On the other hand, there are others who argue that the traditional F2F instructional mode is the best. They submit that despite the benefits of CAI, it could not adequately replace F2F learning mode. The premise of their argument is that using computer technology in educational contexts is an "unwanted 'luxurious' change" (Bulut &AbuSeileek, 2009, p. 4). Some of them, like Xu and Jaggars (2014), submit that typical students have more difficulty succeeding in CAI than in F2F courses. Proponents of this view include Al-Mansour and Al-Shorman (2012), Bawa and Bashar (2022), Eiriemiokhale et al. (2021), Fadeyi et al. (2010), Okocha et al. (2017), and Zakarneh (2018).

Several of studies have been conducted to investigate the learning preferences of ESL students. For example, Hassan et al. (2021) assessed the perception of Nigerian students in adapting to CAI and found that up to 80% of the respondents expressed some reservations about it. The participants cited epileptic power supply, high financial cost of distance learning, and limiting peer and teacher-student interaction as some of the reasons for their preference of the F2F mode of instruction. Also, Egielewa et al. (2021) investigated the perceptions of Nigerian higher education students about CAI (or e-learning) and found that their acceptance level was low. Instead, they preferred the F2F instructional mode. Furthermore, Olayemi at al.'s (2021) study revealed some of the problems faced by Nigerian students in CAI learning modes include the high cost of data, poor internet connection, erratic power supply, inaccessibility of online library resources, and limited access to computers.

On the perception of students towards PBT or CBT, Sevy-Biloon (2021) investigated the attitudes of Ecuadorian English language students towards CAI and F2F instructional mode and found that 70% of them preferred learning English language and skills through F2F mode and only 30% of them preferred the CAI mode. Moreover, Mohamed's (2021) study found that the impact of CAI (or internet applications) on speaking and listening skills was low. Moreover, Olasunkanmi (2020) investigated the views of Nigerian university students towards CAI and found that over 60% of the participants had negative dispositions towards CAI and would rather study using the F2F mode. In another study, Alamri (2019) found that international non-native students in the US preferred using printed texts (p-texts) over electronic texts (e-texts) to improve their reading skills. In another ESL context, Khan and Fareed (2021) investigated 62 Pakistani ESL students who experienced both PBT and CBT and found that they preferred PBT to CBT. In addition, Ita et al. (2014) conducted a study to examine the effects of test mode on students' exam performance and found that the students reported an overwhelming preference for the PBT (86%) over the CBT (5%).

Research Questions

The objectives of this study are to answer the following research questions. The first three are quantitative, while the last one is qualitative.

RQ1: Do Nigerian ESL students prefer to learn English language through CAI or F2F instructional modes?

RQ2: Do Nigerian ESL students prefer to learn English language skills (i.e., listening, reading, writing, and grammar) through CAI or through F2F instructional mode?

RQ3: Do Nigerian ESL students prefer to take PBTs or CBTs?

RQ4: What are the reasons for Nigerian ESL students' instructional and testing mode preferences?

Methodology

This section discusses the research design, population and sampling scheme, research procedure, description of data collection instruments, as well as the validity and reliability of the tools used in the study.

Research Design

The study used sequential explanatory mixed methods research design. According to Creswell (2003), this design involves "the collection and analysis of quantitative data followed by the collection and analysis of qualitative data" (p. 215). To achieve methodological and data triangulations, a survey was used to collect quantitative data and interviews were used to collect qualitative data. The rationales for using multiple data collection tools were to enhance the overall design of the study and triangulate its findings (Mc Crudden & Marchand, 2020), to gain an in-depth understanding of the research problem (Syairofi et al., 2023), to use qualitative data to follow up the quantitative findings, as well as to "boost the validity and dependability of the data" (Zohrabi, 2013, p. 254). In the quantitative phase, a self-reporting close-ended survey was used to find out participants' preferred instructional modes. A survey was used because it is both suitable and appropriate for revealing affective variables like attitudes, opinions, beliefs, etc. (Mackey & Gass, 2005; Ponto, 2015). Other related purposes are to investigate the participants' preferred modes for learning different English language skills and for taking assessments. In the qualitative phase of the study, data were collected through face-to-face interviews with some selected participants to triangulate the quantitative findings and elicit the reasons for the participants' preferences.

Both quantitative and qualitative data were analyzed, presented separately, and later merged at the discussion section by using the direct quotations of the respondents to support or refute the quantitative statistical findings. The quantitative data in this study were analyzed using descriptive statistics. They were carefully keyed into IBM's SPSS software (v26), coded, analyzed statistically. To analyze the qualitative data, the recorded semi-structured interviews were transcribed verbatim, coded, and categorized into themes in accordance with the survey data collected earlier.

Participants

Being a mixed methods research study, nested sampling technique was used to select participants for the two phases of the study. According to Collins et al. (2007), nested sampling technique is a situation whereby participants selected for the second phase of a study are chosen from those used in the first phase. Cluster random sampling technique, a sub-category of probability sampling, was used to draw the samples used for the quantitative strand while purposive sampling, a sub-category of non-probability sampling, was used to select participants for the qualitative strand.

The participants were drawn from a school of technology in Nigeria. Seventy students were randomly selected for the quantitative phase and 20 (representing 29%) of them were purposively selected for the qualitative interview. Demographic data revealed that all of them were between the ages of 18 and 22. In terms of English proficiency, 70% of them rated themselves as either intermediate or upper intermediate. Regarding their ICT skills and access, only 22% of them assessed themselves as above average or advanced and only 10% of then indicated that they either owned or had unrestricted access to computers mostly at home. Up to 78% reported having low ICT skills. Regarding using computers for educational and personal purposes, only 8% of them reported that they had been using it since the primary school. As for the number of hours of using a computer, 15% reported that they used it for two hours or less daily and only 5% of them used it for more than nine hours daily.

Instruments

In this study, data were collected quantitatively through surveys and qualitatively through interviews. The English Language Instructional Mode Preference Survey (ELIMPS) had two parts. Part one requested participants to provide their basic demographic information. Questions were also asked to find out whether they owned personal computers; how long they had been using computers; whether they have ever taken a computer course; when they started using computers for educational purposes; how much time they spent using computers outside school; self-assessed computer knowledge; and self-assessed English language proficiency. Part two consisted of 6 items which requested the participants to indicate their preferred modes for learning different English language skills. The first 5 items asked them to choose their preferred mode

of learning English language and skills (listening, reading, writing, and grammar). Item 6 asked them to choose their preferred testing mode. The items were on a categorical F2F/CAI scale. Perfect response and return rates were achieved because all the participants filled out the survey in a controlled setting and it took them approximately 5 minutes to complete it. The tool was adapted from Akbarov et al. (2018) in their study of Kazakh students' attitudes towards CAI. The survey was slightly modified and used in accordance with the Fair Use Doctrine.

The interview questions were designed by the researcher and they asked the participants to give reasons for preferring a particular instructional mode over the other. According to DoDrnyei (2007), adding interviews to a survey helps in offsetting the weaknesses that are associated with surveys. The interviews gave the participants a more extended and meaningful opportunity to express their views regarding their preferred instructional modes. Each interviewee was asked six questions.

Validity, Reliability and Piloting Research Instruments

The ELIMP survey was validated and piloted. Having been slightly modified for the purpose of this study, a panel of experts was used to re-establish its content and face validity. They validated it and offered valuable suggestions on how to modify it. The interview questions were also validated, piloted, and modified. To test its reliability, the survey was pilot-tested on a group of students. Twenty-five participants were used for the piloting and analysis of their responses revealed a Cronbach alpha of .78. During the main study, which consisted of 70 participants, the reliability coefficient was .87, which was an acceptable reliability measure (Binnahedh, 2022).

Findings Quantitative

Results

Being a mixed methods research study, both quantitative and qualitative data were collected and analyzed. Quantitative data were analyzed using descriptive statistics. Each research question was answered by using percentages and frequency statistics to analyze the data related to it. Then, the data were presented in tables.

Results of RQ1

Research question 1 asked the participants whether they preferred the F2F or CAI instructional modes in learning English language in general. Data from the survey were subjected to frequency and percentage statistics. The finding is presented in Table 1.

Table 1. **Frequency Distribution for Learning English Language**

Mode	Frequency	Percentage
F2F	60	85.7
CAI	10	14.3
Total	70	100.0

Table 1 shows the preferred instructional mode of the participants for learning English language. Almost 86% out of the 70 respondents preferred the traditional F2F mode. 14% of them preferred the CAI mode. This finding reveals that a high percentage of the participants preferred to be taught English language via the F2F mode. The difference was 72% in favor of the F2F instructional mode.

Results of RQ2

Research question two asked the participants whether they preferred learning English language skills (i.e., listening, reading, writing, and grammar) through F2F to CAI instructional modes. Data from the survey were subjected to frequency and percentage statistics. The findings are presented in the next four tables.

Table 2. Frequency Distribution for Learning Listening

Mode	Frequency	Percentage
F2F	58	83.0
CAI	12	17.0
Total	70	100.0

Table 2 shows the preferred instructional mode of the participants for learning listening. 83% of the respondents preferred the traditional F2F mode. 17% of them preferred the CAI mode. This finding reveals that the participants overwhelmingly wanted to be taught listening via the F2F mode. The difference was 66% in favor of the F2F instructional mode.

Table 3. Frequency Distribution for Learning Reading

Mode	Frequency	Percentage
F2F	61	87.0
CAI	09	13.0
Total	70	100.0

Table 3 shows the preferred mode of the participants for learning reading. 87% of the respondents preferred the traditional F2F mode. 13% of them preferred the CAI mode. This finding also reveals that most of the participants preferred to be taught reading via the F2F mode. The difference was 74% in favor of the F2F mode.

Table 4. Frequency Distribution for Learning Writing

Mode	Frequency	Percentage
F2F	63	90.0
CAI	07	10.0
Total	70	100.0

Table 4 shows the preferred instructional mode of the participants for learning writing. 90% of the respondents preferred the F2F mode. 10% of them preferred the CAI mode. This finding reveals that most of the participants would rather be taught writing via the F2F than the CAI mode. The difference was 80% in favor of the F2F mode.

Table 5. Frequency Distribution for Learning Grammar

Mode	Frequency	Percentage
F2F	59	84.0
CAI	11	16.0
Total	70	100.0

Table 5 shows the preferred mode of the participants in learning grammar. 84% of the respondents preferred the traditional F2F mode for learning grammar. 16% of them preferred the CAI mode. This finding reveals that a very high percentage of the participants preferred to be taught grammar via the F2F mode. The difference was 68% in favor of the F2F mode.

Results of RQ3

Research question three asked the participants their preferred testing modes. Data from the survey were subjected to frequency and percentage statistics. The finding is presented in Table 6 below.

Table 6. Frequency Distribution for Taking Assessments

Mode	Frequency	Percentage
PBT	65	93.0
CBT	05	07.0
Total	70	100.0

Table 6 shows the preferred testing mode of the participants. 93% of the respondents preferred the PBTs and 7% of them preferred the CBTs. This finding reveals that the participants overwhelmingly preferred the PB to CB testing mode. The difference was 86% in favor of the PBT mode.

Qualitative Results

To answer RQ4, which is the qualitative research question, the responses to the interview questions were analyzed. These responses gave more in-depth information about Nigerian ESL students' preferred modes for learning all aspects of English language and for taking tests. The reasons given by the participants were categorized into themes, analyzed, and merged with the quantitative findings.Two themes related to participants' preferred instructional and testing modes were identified. They were 'reasons for preferring F2F instructional modes in learning English language skills and taking tests,' and 'reasons for preferring CAI instructional modes in learning English language skills and taking tests.'

Regarding the first theme, several reasons were given by the interview respondents for their preference of the F2F instructional mode. They included: *"Since we don't have computers in our school, we can't learn English through CAI," "Although I agree that computers can make language learning easy, they are either not available or we have no access to them," "Face-to-face classes promote a sense of responsibility and punctuality," "Students face a lot of problems during CBT. For example, my computer froze during my JAMB CBT and nobody was there to give a technical assistance," "It is boring to spend the whole day in front of a computer; I prefer F2F mode where I can collaborate with my course mates and have direct access to my teachers,"* "*I have never learnt through CAI; I don't think it will be as efficient as a F2F class,*" "*We have only one computer lab in our college and we don't have easy access to it; most of the students have no computers at home," "I don't have a computer and I don't know how to operate it; I prefer F2F learning and PB testing,*" and "*Many students feel nervous about using computers.*"

Likewise, regarding the second theme, several reasons were given by the interview respondents for their preference of the CAI mode. They included: "*With the recent development in technology, it is necessary for students to be smart users of computers, or they will be left behind," "CAI gives students the opportunity of learn anytime and anywhere; it gives them access to authentic learning materials," "Computers are amazing learning and testing tools," "Computers help learners identify and correct their mistakes,"* and *"CAI helps students to think creatively and outside the box."*

Discussion of Findings

This section discusses the findings, explains the possible reasons for the results, compares the findings to those in the literature and uses the qualitative findings to clarify the quantitative ones.

Discussion on RQ1

The finding that 86% of the respondents preferred to be taught English language via the F2F mode was a surprising one, especially coming from 21st century learners who are "the most enthusiastic users" of modern technology (Moore, 2017, p. xix). Prensky (2001a) describes these learners as "digital natives" due to their natural aptitude for technology and their dexterity with it. Some of the possible reasons for the participants' preference of the F2F mode could be related to the inaccessibility of the digital technology, which is required to conduct a successful CAI program. Another reason may be computer phobia, which could be due to inadequate digital literacy. To clarify and explain the reasons for this finding, interviews were conducted in the second phase of the study. Respondents gave some interesting insights into the

reasons for their preference of the F2F instructional mode during the interviews. Some of the reasons given were: *"We have only one computer lab in our college and we don't have access to it; most of the students have no computers at home," "Although I agree that computers can make language learning easy, they are either not available or we have no access to them," and "I don't have a computer and I don't know how to operate it."*

Since the difference between the two modes was up to 72% in favor of the F2F mode and the qualitative data corroborated that, it can be argued that the participants overwhelmingly preferred learning English via the F2F instructional mode, thus agreeing with the findings of Egielewa et al. (2021), Fadeyi et al. (2010), Hassan et al. (2021), and Olayemi, at al.'s (2021) who found that the perception of Nigerian ESL students towards CAI was low. In particular, Fadeyi et al. (2010) found that 83.09% of the respondents (sampled from a Nigerian medical school) preferred F2F (live lecture) and 85.6% of them wanted CAI to serve as a supplement to F2F lecture only, not as an alternative instructional mode. However, there are several contrary findings such as Arishi (2012), Lee (2000), Motteram (2013), Taylor (1980), and Tunçok (2010).

Discussion on RQ2

The finding that between 83 - 90% of the respondents preferred to learn English language skills in a F2F mode was also unexpected. Some of the reasons given for this kind of finding, according to Sevy-Billon (2021), include little interaction between classmates and teachers, lack of authentic English practice, difficulty concentrating in CAI classes, and internet connection issues. Other reasons, according to Agung et al. (2020), include the unavailability or unsustainability of internet connection, inaccessibility of teaching media, and incompatibility of tools to access the multimedia. To clarify and explain the reasons for this finding, interviews were conducted in the second phase of the study. Participants gave some interesting insights into the reasons for their choice of the F2F instructional mode. Some of the reasons given included: *"F2F classes give me the opportunity to practice my English with my teachers and class mates and get to help easily and instantly," "Grammar is better taught F2F because teachers seem to explain the points better and more clearly in F2F classes," "Learning English skills in a F2F class is much better because you have direct access to the teachers and you can get assistance from your friends as well,"* and *"F2F classes help me improve all my English language skills."*

Since the difference between the two instructional modes in all the skills was between 66 – 80% in favor of the F2F mode and the qualitative findings corroborated this, it can be argued that F2F was the preferred instructional mode among the participants. Nevertheless, this finding is at odds with the results of many studies that have established the potential of computers in enhancing the language skills of EFL learners in the areas of listening, speaking, reading and writing as well as their grammatical development. They include Agung et al. (2020), Al-Mansour and Al-Shorman (2012), Bhatti (2013), Macaruso and Rodman (2011), Mohamed (2021), Olasunkanmi (2020), Rahimi and Mouri (2016), Sevy-Biloon (2021), and Zakarneh (2018) who reported that most ESL learners prefer to learn English language skills via F2F than CAI mode.

Discussion on RQ3

The finding that 93% of the respondents preferred PBT was also surprising. To clarify and explain the reasons for this finding, interviews were conducted in the second phase of the study. Some of the reasons given by the respondents for preferring PBTs were: *"I prefer F2F learning and PBT to CBT and F2F to CAI," "Many students feel nervous about using computers to take tests," "Students face a lot of technical problems during CBT. For example, my computer froze during my JAMB CBT and nobody was there to give a technical assistance," "I don't like CBT because of frequent technical, connectivity, and power cuts problems."* and *"Students study more, write more and are more careful when they take PB tests."*

Since the difference between the two modes was 86% in favor of the PBT mode and the interview finding corroborated this finding, it could be argued that the participants overwhelmingly showed preference for

the PBT over the CBT. This finding is consistent with that of Abubakar and Adebayo's (2014) study which concluded that "the adoption of CBT in Nigeria faces ten critical challenges amongst this are economic factor, security, software, poor ICT culture, policy and implementation, and power failure" (p. 47). It also aligns with those of Ita et al. (2014) and Khan and Fareed (2021) who found that students usually prefer the PBT to CBT. Other empirical studies which found that students preferred PBT to CBT included Koppel and Hollister (2003) as well as Jimoh et al. (2012). However, there are some contrary findings in the literature. For example, Ebimgbo et al. (2021) investigated the perception of Nigerian university students on the effectiveness of CBT and found that over 68% of them had positive disposition towards the CBT. Also, Okocha et al. (2017) sampled the opinions of 168 students and discovered that over 95% of them were in favor of using the computer for examinations and tests. Others include Eiriemiokhale et al. (2021) and Bawa and Bashar (2022).

Conclusion, Recommendations and Limitations

This study investigated the preferred instructional modes of tertiary level ESL students in Nigeria. It sought to find out whether these students preferred to be taught English language and skills, and take tests through the CAI or the F2F modes. Quantitative and qualitative data were collected and analyzed in a two-phase sequential explanatory mixed method research design. The two data types were merged at the discussion stage. The quantitative findings were surprising and unexpected as they revealed that, despite being digital natives, almost 86% of the participants preferred the F2F instructional mode. It was also found that between 83 - 90% of them preferred the F2F mode for learning English skills (listening, reading, writing, and grammar) and up to 93% of them preferred the PBTs to CBTs. Therefore, it was concluded that the F2F instructional mode and PB testing mode were overwhelmingly popular and preferable modes among the participants.

Based on the findings of this study, the following recommendations are made:

1. Although it has been argued that computer technology has proven to be a great teaching aid (Motteram, 2013), its implementation should be well-planned and properly managed. Similarly, factors which lead to students' inhibitions towards it need to be eliminated completely or controlled.
2. Since the success of any educational program largely depends on the benefits which students derive from it, it is important for teachers and educational administrators to get information related to the preferred instructional modes of the students so as to design appropriate programs and suitable learning resources for them.

One of the weaknesses of this study is that it only used descriptive statistics to analyze the results. In other words, it did not try to find out if the differences between the participants who preferred F2F and those who preferred CAI were statistically significant. Further studies should use inferential statistics for more robust analyses of the data. Secondly, the study did not try to find out the effects of the two learning modes on students' performance. Future studies should examine the effects of the instructional and testing modes on the performance of students. Furthermore, replicating the study with a larger sample size might help in controlling sample size effects.

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ASSESSMENT OF JOB SATISFACTION OF EMPLOYEES' (LIBRARIANS) IN AHMADU BELLO UNIVERSITY LIBRARY COMPLEX, ZARIA

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Abstract
The study examined the assessment of job satisfaction of employees' in Ahmadu Bello University Library Zaria. Survey research design was adopted for the study. Total population was 359 librarians in made up of professionals and para-professionals. Total enumeration was used for the study. The instrument for data collection was a validated questionnaire. Cronbach's alpha results ranged from 0.86 to 0.90. The response rate was 87.5%. Data were analyzed using Pearson product Moment Correlation and Multiple Regression. The findings revealed that job satisfaction among librarians on the following areas, such as: the relationship between management and staff is high, with the mean of 2.79 and STD of 1.267. Next to it, is freedom to choose working method with the mean score of 2.69 and STD 0.586. This is closely followed by job security with the mean score of 2.67 and STD of 0.574. The study concluded that librarians' level of assessment was determined by the extent of employees' commitment. The study recommended that for management of Ahmadu Bello University Library Zaria to succeed, they must find means of promoting job satisfaction among their employees.

Keywords: Job, Job Satisfaction, Employees, Library and University Library.

Introduction

The success and failures of institutions are reflections of several factors, particularly factors that center on the employees or workforce. They are seen as the most valuable asset in achieving institutional goals because the greatest concern of institutional management is to get work done by employees. Hence, institutions cannot succeed without their human resource (employees) efforts and commitment (Cmar & Kareroglu, 2012). In this regard, employees' commitment towards institutional goal is an important concept for management wishing to succeed. Thus, institutions want their employees to be satisfied to become more productive, efficient and committed (Khan, Khan & Khan, 2010). However, employees' commitment to institutional goal is subject to certain underlying psychological factors such as institutional support factors and job satisfaction. Job satisfaction and dimensions of employees' commitment as projected in social exchange and social identity theory.

Job satisfaction on the other part, is made up of two words "job" and "satisfaction". Job on one hand, is an occupational act that is carried out by an individual in return for a reward. It connotes what one does to receive regular payment or appreciation, while satisfaction on the other part, is the way one feels about events, rewards, people, relation and amount of mental gladness on the job (Somvir &Sudha, 2012; Imran, Arif, Cheem & Azeem, 2014)**.** They alsoview Job satisfaction as the degree of an employee affective

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orientation toward the work role occupied in the organization; claiming that employees or workforce who are satisfied with their job by reasons of several institutional factors such as leadership, pay/salary, co-worker, promotion opportunities, communication flow and working environment among others, feel highly committed to their organization.

Job satisfaction and organizational commitment are equally very important to customer or patrons' satisfaction particularly in service-oriented organizations such as educational institutions like the public universities which must recognize that employees' satisfaction will go a long way toward contributing to their goal of having happy and fulfilling students. Thus, Job satisfaction is a frequently studied subject in work and organizational literature in several disciplines such as psychology, sociology, economics and management sciences. This is mainly because many experts believe that Job Satisfaction trends can affect employment scenario and influence organizational commitment, work effort, employees' absenteeism and turnover. Moreover, job satisfaction is sometimes considered among indicators as a strong predictor of overall individual well-being (Syahputra, 2014), as well as a good predictor of intentions or decisions of employees to leave or stay in a job depending on prevailing management practices in such institution.

Imran, Arif, Cheem and Azeem (2014), suggest that improvement on the intrinsic factors (such as promotion, achievement, recognition, advancement, work environment, leadership among others) will lead to a higher level of motivation and satisfaction among employees. They explained further, that extrinsic (whether the task allow the worker to use his/her ability and initiatives), financial/pay (fringe benefit, relationship with colleague/co-worker support and communication flow) have been identified as the predictors of job satisfaction among employees in the place of work as they affect/determine employees' level of job of employees.

A study in telecom sector by Tariq and Nadeem (2013) also reveal that there are different variables like leadership/supervision, salary/pay, job task, communication and relationship with family and co-worker leads an employee towards satisfaction or dissatisfaction that further determines employees' organizational commitment. This makes job satisfaction an issue of substantial importance for both employers and employees. Studies such as Syahputra (2014), express that employers benefit from satisfied employees, as they are more likely to profit from lower attrition and higher productivity if their employees' experience high level of job satisfaction. However, job satisfaction is simply how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs.

Job satisfaction can thus be seen as an emotional response to a job situation which cannot be seen, it can only be inferred and regarded as how people feel about their job and different aspects of it. It also means a positive attitude that an individual has from what he does to earn a living. It is simply the degree to which people (employees) like their jobs. Thus, organizations want their employees to be satisfied to become more productive, committed and efficient (Khan, Khan & Khan, 2010). A person such as librarians with a high level of job satisfaction would hold positive attitudes towards the job, while a librarian who is dissatisfied with his or her job would no doubt hold negative attitudes about his or her job**.** Job satisfaction has been the focus of many researchers measuring employees' level of satisfaction. Job satisfaction is however a complex attitude to understand because an array of factors has been identified as determinants, predictors or 'input- variables' of job satisfaction with a variety of 'outputs' or results.

Thus, job satisfaction is an important attribute frequently measured by organizations. The most common way of measurement is the use of rating scales where employees report their reactions to their jobs. In this ambience, there is a renewed interest in the commitment level of the public sector in many developing economies as they face a more competitive global environment. Efforts to improve the performance/commitment level of the public sector focus on both personal and contextual variables. The study of Sokoya (2000) reveals that employees' job satisfaction do affect their commitment to work and that satisfied employees are happy and thus productive. Therefore, the success of organizations depends on

the satisfaction of their employees. The happier people are with their job, the more satisfied and committed they are said to be is unarguable in this respect.

Organizations cannot succeed without human resource efforts. In the absence of job satisfaction, organization may suffer several consequences such as low productivity, high rate of absenteeism, and high rate of staff turnover that could negatively affect its existence and continuity. Unfortunately, in a country like Nigeria, public sector seems to be a misplaced priority, but in a pitiable and despised state, especially in the education sector as several existing literature speculates. This circumstance has not only led to frequent agitations of public servants in Nigeria over the years, but to industrial actions such as strikes among Civil Servants. This situation has not only caused service failure among some public servants (particular in the educational sector) in Nigeria, but impacted negatively on the general educational and economic background of the country. Although some studies have been done on identifying librarians' level of job satisfaction to organization, little or no work has addressed the composite assessment of job satisfaction factors on employees' in Ahmadu Bello University Library Zaria. Hence, this study intends to assessment of job satisfaction of employees' in Ahmadu Bello University Library Zaria.

Research Questions

The following research question was used to guide the study:

1. What is the level of job satisfaction of employees in public university libraries in Ahmadu Bello University Library Zaria?

Methodology

The survey research design was adopted for this study. The population consists of 359 Professional and Para-Professional librarians working in Ahmadu Bello University Library Zaria.Total enumeration sampling techniques was used for the study considering its relatively small size, which according to Kuo, Su, and Chang, (2015), when a study population is small, the entire population can be used.The instrument used in collecting data for this study is both adapted and structured questionnaire. Data collected was collated and analyzed using appropriate sub-programmes of the SPSS version 20. Descriptive statistics such as mean and standard deviation were used to answer the study research questions.

Data Analysis, Results and Discussion of Findings

Data collected were presented, interpreted, analysed, and their findings or results discussed.

Analysis of Research Question:

What is the level of job satisfaction of employeesin Ahmadu Bello University Library Zaria?

Table 1 showing the level of job satisfaction of employees (librarians) in Ahmadu Bello University Library Zaria. N = 314

Questionnaire Items	VS 4	S 3	D 2	VD 1	Total	Mean	ST.D
1. Relations between management /leadership and staff.	41	219	46	8	314	2.79	1.267
2. Freedom to choose your own working methods.	14	171	120	9	314	2.69	0.586
3. Your job security.	44	227	34	11	314	2.67	0.574
4. The amount of responsibilities you are given	30	229	49	6	314	2.58	0.503
5. Future chance of promotion.	23	225	57	9	314	2.56	0.532
6. The opportunity to use your abilities.	41	185	80	8	314	2.55	0.648
7. The amount of variety in job.	23	146	124	21	314	2.52	0.697

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8. The way the library is managed.	32	160	107	13	314	2.52	0.674
9. The attention paid to your suggestions.	25	133	143	13	314	2.43	0.679
10. The recognition you get for good work.	35	164	102	13	314	2.26	0.678
11. Salaries and other emoluments.	20	196	87	11	314	2.26	0.6
12 The physical conditions in which you work.	31	198	74	11	314	2.17	0.606
13. The hours of work.	25	230	49	10	314	2.1	0.521
14. Your immediate boss/supervisor.	51	191	61	11	314	2.06	0.644
15. Your fellow workers.	24	251	27	12	314	2.04	0.48
Overall Mean Ratings						**2.41**	**0.646**

Source: Researcher' Field Report, 2021

It could be observed from Table 1, that the overall mean score of all the variables under consideration clustered around 2.41, and the standard deviation is 0.646. Based on the cut-off point of 2.50, the level of job satisfaction of in Ahmadu Bello University Library Zaria, is low.

Table 1 specifically reveals that the level of job satisfaction among librarians on the following areas, such as: the relationship between management and staff is high, with the mean of 2.79 and STD of 1.267. Next to it, is freedom to choose working method with the mean score of 2.69 and STD 0.586. This is closely followed by job security with the mean score of 2.67 and STD of 0.574. Others are: The amount of responsibilities they are given (M=2.58, STD=0.503); future chance of promotion (M=2.56, STD=0.532); The opportunity to use their own abilities (M=2.55, STD=0.648); The amount of variety in job (M=2.52, STD=0.697); and The way the library is managed (M=2.52, STD=0.674).

Discussion of Findings

The study established that librarians' level of job satisfaction in Ahmadu Bello University Library Zaria, is low. This could have resulted from the low level of institutional support observed by them. It implies that management of the in Ahmadu Bello University Library Zaria are failing to observe the factors that positively influences employees' job satisfaction as reported by Arunkumar, (2014) who found low job satisfaction level among teachers in public senior high school in the Temale Metropolis of Ghana resulting from poor handling of employees (extrinsic factors)such as salary, incentives, working conditions, security (medical allowance and future pension benefits) that motivate employees and helps in achieving high job satisfaction effectively. This finding is also in line with the report of Hazarika (2012) who found that lack of job satisfaction hampers the efficiency of the organization and people therein. This has similar link to the study of Bergh and Theron (2001) who also argued that the style of leadership adopted by supervisors play an integral role in determining job satisfaction level of employees in an organization.

Conclusion

Librarians' level of commitment to organization is determined by the extent at which their level of job satisfaction. It could be deduced that librarians who experience Low Level of Job Satisfaction are expected to exhibit same Low Level of commitment to organization. Thus, it is necessary that any organizational management wishing to succeed through employees' high level of commitment to organization, must find means to increase employees' job satisfaction as prerequisites.

Recommendation

The following recommendation is made in line with the finding of the study for policy considerations particularly now that the study outcome has shown that employees' level of job satisfaction is low.

1. More emphasis should be laid on eliminating or reducing the factors challenging job satisfaction of librarians as identified in the study.

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MANAGEMENT OF EDUCATIONAL RESOURCES: A TOOL FOR QUALITY TEACHING AND LEARNING IN NIGERIA

BY

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Abstract
The efficiency and quality teaching and learning lies heavily on effective management of educational resources. Educational resources are necessary inputs in the school organization that enhance the survival of school system and improvement of quality education. Management of these resources could be done through the planning, organizing, controlling and coordinating Educational resources refer to human, material, financial, time and information for the achievement of educational goals. This paper reviewed the concept of management, concept of quality teaching and learning, and concept of teaching and learning resources. Similarly, the paper emphasized relevance of resources to teaching and learning, management of resources for quality teaching and learning and then explained four basic types of educational resources. Finally, the paper highlighted some challenges of resources management in Nigerian school system and then recommended the proper ways for the improvement of effective resource management for quality teaching and learning in Nigerians.

Key words: Effective management, Educational resources, Quality teaching and Learning.

Introduction

The effective implementation and realization of the objectives of teaching and learning to a large extent can be linked to different factors which may include the provision and effective management of available educational resources. Dangora, (2016) asserted that the quality of every society is largely predicated on the quality of its educational system. In the light of the apparent constraints on educational resources their efficient management for the attainment of predetermined result need not be over emphasized.

Adebayo, (2001) viewed that there should be administration in any organization as long as an organization consists of people brought together in hierarchical set-up making use of tools, equipment, human and material resources purposely for the attaining of goals for which the organization is established. Education is an indispensable tool for personal and social developments. As an investment, education constitutes the largest enterprise in Nigeria. It is a spring board as well as the principal instrument for academic progress, social mobility, political survival and effective national development of any country.

Educational resources can be seen as a variety of instructional materials that provide to a large extent, rich experiences for the teacher and students especially as they progress through knowledge acquisition (Amaele, 2012). According to Dangra (2016), education resources refer to all human, material, non material, audio-visual, school environment and community materials available in an academic environment to facilitate school administration and simplify the teaching-learning process for the realization of education goals.

In Nigeria, the school administrators are bedeviled by the numerous problems related to management of educational resources. It is obvious that the resources are very limited while the demand is so high in this regard therefore; there is a need to be properly managed to support the attainment of educational objectives to a great extent. They are inputs in school systems which should be distributed, utilized and managed by the school managers to encourage successful teaching and learning in order to optimize school output and continuous school improvement. A review of previous educational programmes in the country shows that

resource inadequacy has been a significant element in chronic education failings (Fafunwa, 1974; Taiwo, 1985; Aiyepeku, 1989 in Agabi, 2010).

Adzongo, Shir & Hembah, (2016) viewed that teaching is an attempt to help someone acquire or change some skills, attitude, knowledge, ideas or appreciation. A good teacher is also able to manage and efficiently utilize available resources in the classroom setting for effective teaching and learning, so that teaching quality in the overall educational process can be achieved. In this regard therefore, we can be able to note that teaching and learning could not be effected without an efficient management of resources available in school environment.

Concept of management

Management can be seen as a process of effective utilization of human, material financial and information resources in a particular organization for the purpose of achieving pre-determined goals and objectives. In this regard, United Nations Economic Scientific and Cultural Organization (2009) viewed Management as a social process which is designed to ensure the cooperative participation, intervention and involvement of others in the effective achievement of a given or pre-determined objectives. Adesina (2010) defines management as the organization and mobilization of all human and material resources in a particular system for the achievement of the identified organizational objective. Management involves many functions such as planning, organizing, staffing, directing, coordinating, reporting and budgeting. According to Griffin (2004), the most important management functions are planning, organizing, directing and controlling.

From these above definitions, one could say that management functions entail the following; planning, organizing, staff, directing/leading, controlling and coordinating. Onodugu (2000) perceived that the term management to consist of two groups. The first group is a group of persons who are in the helm of affairs in any organization. They are those who work with and through others towards the realizing of organizational goals. This perspective gives us a bipolar group in any organization comprising managers (members of management) on one hand and non-managers or operatives on the other hand. Operatives are those who perform the tasks for which the organization exists; for example, teachers, doctors, lecturers in the University and the like. Hicks (2007) saw managers as those who get things done through and with others. In other words are those who supervise the operatives. For example, the headmistresses in primary schools, provosts in colleges of education, and vice-chancellors in universities. The second group sees management as a process of activity of managing. In this case it means the process through which organizational resources (human and material resources) are continued in a way that the goals and objectives of the organization are realized on effective and efficient manner.

Concept of Educational Resources

Teaching and learning resources are variety of instructional materials that determine and produce rich experiences for the teacher and students especially as they progress through knowledge acquisition. (Amaele, 2012). Different words have been used to describe teaching resources. Some of these are teaching aids, instructional materials, educational media, apparatus, audio-visual aids and curriculum materials, depending upon different professional, background and orientation. Teaching resources are human and material objects which help the teacher to make a lesson more interesting, more explicit, more meaningful, functional and real to the learners (Amaele, 2012).

Adzongo, Shir & Hembah, (2016) viewed that teaching is an attempt to help someone acquire or change some skills, attitude, knowledge, ideas or appreciation. A good teacher is also able to manage and efficiently utilize available resources in the classroom setting for effective teaching and learning so that teaching quality in the overall educational resources can be achieved. In this regard therefore, we can be able to note that teaching and learning could be effective without an efficient management of resources available in school environment.

Concept of Quality teaching and learning

The concern over quality education was first raised during the United Nations conference held in Jomtien, Thailand in 1990 that resulted in the "Declaration on Education for All and a Framework for Action to meet basic learning needs". The conference recommended that provision of education at the time was deficient in terms of quantity, quality and relevance. It has been further explained that quality of education is the process of evaluating the quality of an educational system which entails analyzing the following areas

(a) the extent to which the products or the results of the education provided (the knowledge, skills and values acquired by the students) meet the standards stipulated in the system's educational objectives; and

(b) the extent to which the knowledge, skills and values acquired are relevant to human, environmental conditions and needs. The quality of education should take into account such determinants as provision of teachers, buildings, curriculum, equipment, textbooks, and the teaching process. The UN conference described the three dimensional composition of the quality of education comprising the quality of human and material resources available for teaching (inputs), the quality of teaching practices (process) and the quality of results (outputs and outcomes). Ndabazinhle (2004) also maintained that quality education is the total effect of the features of the process or service on its performance or the customer's, or client's perception of that performance.

Relevance of Resources to teaching and learning

Planning and allocation of resources cannot be over emphasized, when a school, puts in more resources for their institution to function efficiently and effectively it will boost the image of the school as the performance standard of the school will improve beyond measure. Few years ago, numerous research studies have reported some significant results regarding the relationships between resources, educational productivity and improvement in teaching and learning (Anyaogu, 2015; Akinsolu, 2012; Kingi, 2015) In the realm of education, the availability and management of resources play a crucial role in the teaching and learning process. Resources encompass a wide range of materials, tools, and references that facilitate effective instruction and enhance students' understanding and engagement. From traditional textbooks to digital media, these resources provide teachers with avenues to deliver content, stimulate curiosity, and cater for diverse learning styles. i. **Enhancing Content Delivery:**

Resources serve as vehicles for content delivery, enabling teachers to present information in various formats that align with students' needs. Textbooks, lesson plans, multimedia presentations, and online platforms are examples of resources that offer structured and organized content. By utilizing diverse resources, educators can adapt their instructional strategies to reach different types of learners, ensuring greater accessibility and comprehension of subject matter. ii. **Fostering Engagement and Active Learning:**

Engaging students actively in the learning process is essential for meaningful comprehension and retention. Resources that incorporate interactive elements, such as simulations, experiments, and educational games, encourage hands-on exploration and critical thinking. These resources promote a dynamic learning environment, capturing students' attention, motivating them to participate actively, and fostering a deeper understanding of the concepts being taught. iii. **Supporting Different Learning Styles:**

Students have unique learning preferences and strengths, ranging from visual and auditory learners to those who benefit from hands-on experiences. Resources can be tailored to accommodate these individual differences, allowing teachers to present information through various modalities. Visual aids, videos, audio recordings, manipulative, and online platforms can all cater to different learning styles, ensuring that every student has an opportunity to grasp and internalize the content effectively. iv. **Encouraging Self-Directed Learning:**

Resources also play a vital role in promoting self-directed learning and fostering independent thinking skills. Accessible and well-organized materials, such as libraries, digital databases, and online research tools, empower students to explore subjects beyond the classroom. By providing

students with opportunities to conduct research, analyze information, and pursue their interests, resources cultivate lifelong learners who are capable of taking ownership of their education.

v. **Facilitating Differentiated Instruction:**
Every classroom comprises students with diverse abilities, backgrounds, and learning needs. Resources can be adapted to facilitate differentiated instruction, allowing teachers to address individual strengths, challenges, and interests effectively. Supplementary materials leveled reading materials, adaptive technology, and assistive devices are examples of resources that assist in tailoring instruction to meet the unique requirements of each student, ensuring an inclusive and equitable learning environment. **Keeping Pace with Technological Advancements**:

vi. In today's digital age, the relevance of resources to teaching and learning is closely tied to technological advancements. Digital resources, online platforms, educational software, and interactive tools offer innovative and immersive learning experiences. By embracing technology as a resource, educators can harness its potential to engage and motivate students, while also preparing them for a rapidly evolving world that increasingly relies on digital literacy and technological competence.

Management of Resources for Quality Teaching and Learning

Management during the industrial revolution was concerned with how best to scientifically organize men and materials to ensure maximum profit for the employer. Current studies have discovered that management practices have an influence on organizational outcomes absolutely or adversely (Agomuo, 2002; Ezeani, 1999; Hanson & Anderson in Akpotowo& Amahi, 2006 as cited in Ezeani, 2012). Nwankwo (1979) in Nwankwo (2014:4) attempted to define management (in education) in a resources/results context as "the organization of resources (human, material and information) available for education and, judiciously using them methodically to achieve educational objectives". Management in education can be seen as the utilization and systematic coordination of available resources (human, material, finances, time and information) towards the achievement of stated educational objectives.

Management exists in any institute to make resources fruitful in order that the organization may achieve its objectives (Ezeani, 2012). Management stimulates actions, arranges, coordinates people and material resources for the accomplishment of institutional objectives. Onwuchekwa in Ezeani (2012) defined management as the organization and utilization of all human and material resources in a particular system for the attainment of acknowledged objectives in the system.

From the above assertions, management of resources can be seen as the process of planning and deciding on how resources could be provided, managed, used and as well maintained for the improvement and realization of predetermined organizational goals and objectives.

In this regard therefore, one can deduce that the school manager has four basic types of resources to manage in order to improve quality teaching and learning for the achievement of educational objectives. They are as follows: school financial resources, school material resources, school personnel/human resources, school time and information resources.

School Financial Resources

Financial resources are the economic inputs available for and consumed on the education system (Asodike&Adieme, 2014). The major concern of school financial management relates to the school budget. Nwankwo (2014) stated that budgeting is the identification, determination, allocation of and accountability for the funds available for running the school programmes and services in accordance with the school's objectives. Cost budgeting is one of the most popular ways of budgeting.

The document produced after cost budgeting is called budget. Budgets may be stated in terms of time, funds, material, labour or other tangible elements that can be monetized. School financial plan helps in the coordination of the various units and departments towards the objectives of the school. It encourages judiciousness and heightens economy in the use of materials and also inhibits waste in that it limits costs to specific purposes and limits (Nwankwo, 2014). It then implies that every school manager should have or prepare a budget for his school every academic session so as to know how to manage his resources prudently in order to achieve his vision for his school.

School Material Resources

Material resources are tangible facilities such as school plant and facilities like furniture, buildings, play-ground, modern educational electronic gadgets, teaching aids, computers, projectors, sports and musical equipment and many more, which can be used to accomplish educational goals. The school plant and facilities (materials) management involves the proper arrangement, maintenance and utilization of these material resources for the services of the school and in accordance with the objectives of the school.

However, Asodike and Jaja (2014) stated that the effective realization of set goals of an educational institution depends wholly on how effective the physical facility resources are allocated, utilized and managed in its production of goods and services. Facility and materials management requires the school manager working with a professional and planning team that will develop sound safety emergency procedures and policies that states the procedures for usage of the school material resources. Also, effort should be made for proper maintenance of the school facilities so as to enhance its longevity.

School Personnel/Human Resources

The human elements at work in education are the human resources. They consist of the students, teaching and non-teaching staff, etc. These categories of human resources in the school are gifted with a range of abilities, talents and attitudes to encourage efficiency and maximize profit (Bratton & Gold, 2012). Their needs and the organizational needs should be properly managed to create an equilibrium that will yield positive output for the organization.

Training and retraining exercises should be organized for them with the use of latest technological equipment's (computers and projectors) and relevant teaching tools. A major issue is for the school managers to explore all the factors of job satisfaction and dissatisfaction in their effort to motivate the school staff.

To ensure adequate staff motivation schools manager will ensure that the task of classroom teaching or coaching in extra-curricular activities are made satisfying (Nwankwo, 2014: 236). Welfare packages of teachers should not be treated with laxity. Money and worthy working condition/ environment are two foremost motivating elements for workers. There should be a system in place to reward hardworking teachers and also encourage them to improve themselves by affording them the opportunities for further education with the result that the more ambitious teachers will not see the job and/or the management as enemies in residence that are against their progress.

School Time and Information Resource

Time as a resource in educational institutions includes; time for delegation of duties and responsibilities, time for meetings, time for academic learning, time for extra-curricular activities, and so on (Nwankwo (2011) in Asodike & Jaja, 2014).

It is held that most educational management glitches in Nigeria are traceable to insufficient information and a general deficiency of appropriate information management techniques (Okorosaye - Orubite, 2008; Akinwumiju & Agabi, 2008 in Agabi, 2010).

The second step in the prioritization is to give detailed steps that may be necessary to effect those priorities. (Here he involves his staff, students, parent and even service providers to the school). The third major step is to allocate time (months, weeks, days, hours) for each of the steps (Nwankwo, 2014:242). The school manager must also have a personnel time chart showing, in brief, what he intends to achieve on a weekly and daily basis, because an adage states also that "it takes time to save time".

Challenges of Resources Management in Nigerian school system

To a large extent, resourcing in our educational institution faces a lot of challenges. A school as a social system made up of various inputs as resources (human, material, finance, time and information) which undergo a process to arrive at finished products have their challenges and issues that surround its improvement and productivity.

Some of the issues in our educational programmes are inadequate planning for the allocation of resources, supply of educational resources, inadequate management of the staff personnel, and political constraints.

i. Inadequate Planning for the Allocation of Resources

Government budgetary allocation to education still falls below 26% recommendation by UNICEF for developing countries like Nigeria. This can be caused by so many reasons such as the economic situation of the nation and state, the relative importance attached to secondary education, the number of institutions being managed by the government and the various populations of learners in public secondary schools across the nation (Maduagwu& Nwogu, 2006).

ii. Supply of Educational Resources

Mostly, in our various schools, the supply of educational resources are very low, while the demands are so high which leads to the shortage of resources. Nwagwu in Maduagwu and Nwogu (2006) confirmed that the resources in our schools in Nigeria are grossly insufficient. This insufficiency of resources according to Kosemani in Maduagwu& Nwogu (2006), can make the most brilliant education plan useless and of no effect. Shortages in the supply of school resources could be as a result of school managers in their inability to make appropriate demand for resources needed in their schools.

iii. Improper Management of the Staff Personnel

School managers do not take cognizance of the importance of assembling, guiding, regular supervision and motivating qualified staff in their schools. In most cases, the staff are posted to the schools based on vacancies proposed by the school head or according to the staff positions provided for in the school budget (Nwankwo, 2014).

Employing qualified teaching staff and as well providing what motivates them is essential because of the fact that what satisfies a particular teacher can dissatisfy another teacher. The school managers should uphold and inspire those factors that create good human relations and group success for effective job performance.

iv. The Politicization of Educational Leadership Positions

This is a situation in which school managers are selected not by excellence and professional qualifications, but by political influence. If the school head is not proficient confident enough to manage his school resources under his care will mar or make his administration very successful.

Suggestions for improvement of Effective Resource Management in Schools

Based on the above discussions, the following suggestions are necessary for the improvement of Effective Resource Management in Nigerian Schools.

- **Provision of sources for financial resources**
  School managers should enhance avenues for their schools to generate funds internally which can be through P.T.A. levies, uniforms, examination fees, local craft, environmental levy, etc. Moreover, all these funds should be judiciously put into use and not being diverted into their private pockets.

- **Conduct aComprehensive Resource Audit:**
  Start by conducting a thorough assessment of all available resources within the school. This includes physical assets such as classrooms, laboratories, libraries, and equipment, as well as human resources like teachers, administrators, and support staff. By understanding the existing resources, schools can identify gaps, redundancies, or underutilized assets, allowing for more efficient allocation.

- **Implement Effective Budget Planning:**
  Develop a detailed budget plan that aligns with the school's vision, goals, and educational requirements. Involve relevant stakeholders, such as teachers, administrators, and school boards, in the budget planning process. Prioritize critical areas such as curriculum development, teacher training, infrastructure maintenance, and technology integration. Regularly review and adjust the budget to adapt to evolving needs.

Foster Collaboration and Sharing
Encourage collaboration and resource sharing among teachers and staff members. This can be done through establishing platforms for knowledge exchange, such as professional learning communities, where educators can share best practices, teaching materials, and innovative ideas. By fostering collaboration, schools can leverage the expertise of their staff and optimize resource utilization.

Professional Training
School administrators should be professionally trained as to enable them to acquire adequate knowledge about educational resources and how to manage such relevant resources for any particular programme.

Embrace Technology
Leverage technology to streamline administrative processes and optimize resource management. Implement a comprehensive school management system that integrates functions such as student enrollment, scheduling, attendance tracking, and resource allocation. Technology can also support digital learning platforms, reducing the need for physical resources and allowing for personalized learning experiences.

Engage the Community
Forge partnerships with local businesses, organizations, and community members to expand the school's resource base. Seek donations, sponsorships, or grants to acquire additional educational materials, equipment, or infrastructure improvements. Engaging the community in supporting the school's resource needs not only enhances resource availability but also fosters a sense of shared responsibility and collaboration.

Establish Maintenance and Renewal Plans
Create a regular maintenance and renewal schedule for school infrastructure and equipment. This proactive approach helps prevent major breakdowns or costly repairs, ensuring the longevity of resources. By regularly assessing the condition of facilities and equipment, schools can plan for timely repairs or replacements, reducing disruptions in the learning process.

Promote Environmental Sustainability:
Incorporate environmentally sustainable practices into resource management. Implement energy-saving measures, recycling initiatives, and water conservation strategies within the school premises. Such practices not only reduce operating costs but also instill a sense of environmental responsibility among students, fostering their understanding of sustainable resource management.

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IMPACT OF PRINCIPALS' SUPERVISORY PRACTICE ON TEACHERS' JOB PERFORMANCE IN TEACHING AND LEARNING IN THE NEW GLOBAL REALITIES IN SECONDARY SCHOOLS IN KADUNA STATE

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Abstract
This study assessed the Principals' Supervisory Practice on Teachers' job performance in teaching and learning in the New Global realities in Secondary Schools in Kaduna State. Two (2) objectives were raised to guide the study, which are to examine the influence of principal's supervisory practice of record checking on teachers 'job performance in Secondary Schools in Kaduna State; and assess the influence of principals supervisory practice on interactive session on teachers' job performance in Secondary Schools in Kaduna State. Two (2) research questions, and research hypotheses were formulated to guide study in line with the stated objectives. Descriptive research design was used for the study. The population of the study was 6,209 respondents which consisted of 5,580 teachers, 400 principals and 229 school inspectors in Kaduna State. 357 respondents were used as the sample size in the study in line with research Advisors 2006 as well as Simple random sampling technique was used. The instrument used for the collection of data was questionnaire. Descriptive statistics of frequency counts and simple percentage were used to analyze the bio-data of the respondents while mean and Standard Deviation were used to answer the research questions. Inferential statistics of Analysis of Variance (ANOVA) was used to test the Two (2) null hypotheses at 0.05 level of significance. The findings of the study revealed that principal's supervisory practice of record checking such as checking of teachers' lesson note, scheme of work and lesson attendance register enhanced teachers job performance in Secondary Schools in Kaduna State. The study recommended that workshops and seminars be organized by Ministry of Education, in collaboration with school principals, from time to time to cater for the professional assignment needed by teachers on school records keeping and management.

Keywords: Principals' Supervisory Practice, Teachers' job performance, Record checking and interactive session.

Introduction

The principals being the instructional leaders are at the vantage position to supervise, monitor, assess, evaluate and disseminate current information on educational issues and modern teaching techniques to teachers in order to stimulate them for scholarship and best practices in curriculum delivery(Abay, Berhane, Hoddinott and Tafere 2023). The principals are vested with the administration of the secondary schools and their ability to plan, control, direct and co-ordinate the activities of the school involving both human and material resources is central to the achievement of educational goals (Gamage, 2006). In the performance of this role, the principal's major task areas include human resource management, instructional supervision, school plant management and evaluation(Smith, 2013). The success of the school depends largely on effective leadership because policies and decisions which can help to direct activities of the school to success have to be executed by the principal.

All the functions the principal discharges daily are geared towards the fulfillment of the objectives of secondary education in Nigeria Secondary education occupies a very strategic position in any nations educational. Secondary education is the education children received after primary education and before the tertiary stage (Mohammed *et al.*, 2021). The broad goals of secondary education are to prepare the individual for useful living within the society and Higher education. A major factor that necessitates the acquisition of secondary education in Nigeria is that the education being provided at the primary level is proving to be insufficient for a child to acquire permanent literacy, communicative, and numeracy skills expected from him/her at the end of the training. In specific term, secondary education according to Agi and Yellowe (2013) shall:

a. Provide all primary school leavers with the opportunity for education of a higher level, irrespective of sex, social status, religious or ethnic background.
b. Provide trained manpower in the applied science, technology and commerce at sub professional grades.
c. Inspire students with a desire for self-improvement and achievement of excellence.
d. Foster national unity with an emphasis on the common ties that unite us in our diversity.

Record keeping is an important component in the academic performance of a school, teachers are required to make and retain records such as schemes of work, lesson plan, records of work, mark book, progress record book and attendant register. Students' exercise books and lesson notes reflect the work load covered in class by teachers (Kaden, 2020). It is the principal's role to regularly inspect on the students" e x e r c i s e book/lesson notes to ensure that the school syllabus is covered appropriately and assignments are marked. The development of a lesson notes serves as a road map to effective teaching. Teachers were therefore expected to take adequate care when writing their lesson notes while the principals or unit heads, who were their immediate supervisors, needed to be concurrent in checking their lesson notes to make the more responsible to their duties.

Principalship is a well-established position of the chief executive who provides instructional leadership by coordinating curricula, co-curricular programmed and is responsible for general administration of the secondary school (Danbaba & Panshak, 2021). In public Secondary schools in Kaduna State, it has been observed that some school principals as instructional supervisors have tended not to have devoted adequate time to the supervision of instruction, including the inspection of teachers" l e s s o n n o t e s . t he very steering wheel for driving lesson delivery. The situation is so bad that teachers write out just anything as lesson notes without adequate checking of the notes for positive pedagogical results. The resultant effect of which are poor classroom instruction, poor evaluation of students' performance during and at the end of the term, inappropriate adoption of teaching methods, poor use of teaching aids, poor supervision of students" extracurricular activities among others.

Nowadays, parents and guardians of students in Kaduna State are becoming more curious about the kind of education given to their children and wards. Quite often, they show their concern by demanding that the school should teach better than in the past. People no longer agree that secondary school's graduates are in any way comparable to primary school's leavers of yesterday. Government is also worried that in spite of high colossal of money invested in education, things are not getting better with the sector.

There are complaints and reports that many principals do not devote much time and attention in planning, supervising, coordinating, directing and influencing academic activities in their schools. There are also complaints that teachers are no longer efficient and productive because they do not make optimal use of the available time to see that the students acquire necessary skills, knowledge and attitudes as specified in the schools' curricular activities because of poor instructional leadership practices displayed by principals.

Over the years, empirical evidences and reports in literatures reveal that studies related to principals' internal supervision of instruction on teachers' job performance in schools has been conducted at different levels in different locations and from different perspectives. It is against this backdrop that this research

study assessed impact of principals' supervisory practice on teachers' job performance in Secondary Schools in Kaduna State.

Objectives of the Study

The following objectives were raised to guide the study:

1. Examine the impact of principals supervisory practice of record checking impact on teachers' job performance in Secondary Schools in Kaduna State; and
2. Examine the impact of Principals supervisory practice of interactive session on teachers' job performance in Secondary Schools in Kaduna State.

Research Questions

In pursuance of the objectives of this study, the following research questions were formulated for the study:

1. In what ways does principals' supervisory practice of record checking on teachers' job performance in Secondary Schools in Kaduna State?
2. What is the impact of Principals supervisory practice of interactive session on teachers job performance in Secondary Schools in Kaduna State?

Research Hypotheses

The following null hypotheses were formulated to guide the study.

HO1: There is no significant difference in the opinions of teachers, principals and school supervisors on the impact of Principals" supervisory practice of record checking on teachers' job performance in Secondary Schools in Kaduna State. **HO2:** There is no significant difference in the opinions of teachers, principals and school supervisors on

the impact of Principals supervisory practice of interactive session on teacher's job performance in Secondary Schools in Kaduna State.

Impact of Principals' Supervisory Practice of Records Checking on Teachers' Job Performance

In a system, records are very important. Principals should encourage teachers to keep school records under their custody up to date. They should also keep the records of students' academic performance, fill in dairies, attendance register, duty report book, take inventory and keep continuous Influence records. Lamidi and Afariogun (2020) observed that a one to three days' visit and observation made by school inspectors is not enough to assess the educational system. In built supervision should involve keeping of adequate records which can be discussed by supervisors. It is the responsibility of principals to monitor the keeping of school records, in order to enhance smooth administration of schools toward the realization of educational objectives. It is the role of principals to be very careful in keeping records, checking and cross checking every item of information going out under their signatures. The principals must also check all the statutory records kept by the teachers with the emphasis placed on honest and faithfulness in keeping them.

This is because, records management is one of the fundamental role of principals in the schools. The management of records in schools, like in any other organization, is a cyclic process involving principals and teachers (Amanchukwu & Ololube, 2015). Most records are handled by principals and are kept manually, hence the processing, retrieval and utilization of records is not always easy. Principals supervisory practice of checking teachers" records have impact on teachers' job performance in schools. According to Amanchukwu and Ololube (2015) the following are characteristics or attributes of good record management.

- **Completeness:** Complete and comprehensive records should be kept to give users all the information needed to plan and make effective decisions.
- **Cost:** Records should not be too expensive to keep. This means that the financial cost of collecting, analyzing, synthesizing, storing and retrieving records should be low.
- **Flexibility:** Data is flexible if it can be used by more than one user at different times for different purposes.

- **Quality:** The quality of any information contained in any record must be accurate and reliable. The greater the accuracy and reliability, the higher the quality of information, and the more likely the information system is to work well.
- **Relevance**: A relevant record is one that is useful to the needs of the system. A good deal of irrelevant information is kept, particularly in schools. Data that is no longer relevant and not required by law should be securely disposed of.
- **Timeliness:** Information contained in a record should be retrievable as it is needed rather than after important decisions have been made.
- **Maintenance:** The maintenance of records involves all activities that ensure that they are in good condition, and kept in an orderly state. This is a central function of records management. From the above exposition, it is evident that principals have role to play in the supervision of checking teachers' records in the schools. if this is properly done, it will improve the job performance of teachers in term of keeping and updating their records in the schools.

Influence of Principals' Supervisory practice of interactive Session on Teachers' Job Performance

Principals as instructional supervisor in the school have a lot of roles to play as regard conference with teachers. The principals should realize that the teachers are also supervising equally, so they should provide one of the most productive settings for the conference. The principals and teachers should both be interested in solving instructional problems (Saleem, Muhammad, & Masood, 2020). In this regard, the conference is a mean of getting information which would help the principal to work out detail of things to be discussed as observed when teacher was performing.

There are various reasons for holding conference with the teachers. For instance, after observing student-teachers teach, they usually want to know how they performed. The same situation exists in educational system. After the teachers have been observed, they are normally anxious to know how the supervisor feels about their performance. This situation call for conference. It is the role of principals to organize conference with their teachers so as to enhance their performances. If it is not held, the teacher would begin to worry, thinking that the supervisor was not happy with his teaching. The teacher may also be aware that he/she performed so well, yet, would like to be informed that he did well by the supervisor. In doing this, the supervisor uses words of praise as reinforcement in telling him that he performed well.

The principal as the supervisor should know that each conference is unique and so should use it to a great advantage for himself and the teacher supervised. He should bring out intimate relationship between himself and the teacher as both are interested in improving instruction.

The Clinical Classroom Supervision

This model aims at improving the teachers" activities in the classroom. It is called clinical in the sense that it utilizes both the counseling and the skill training models as well as taking into account teachers" behavior and feelings in a supportive, analytical and non-evaluative context. According to Milne, Aylott, Fitzpatrick and Ellis (2008) clinical supervision model has five stages, which are enumerated below.

1. **Pre-Observation Conference:** Here the supervisor and the teacher establish contact and reach agreement about the reasons for supervision and how it will be carried out. Agreement is also reached on set objectives of the lesson against which the teaching will be evaluated.
2. **Actual Classroom Observation:** Supervisor observes and carefully records the classroom interaction, possible verbatim.

Methodology

A survey research design was adopted for this study. The design is considered to facilitate extraction of data from different sources. Since the study is descriptive in nature, it acquired data from principals, teachers and school supervisors to assess. The population of the study was 6,209, made up of 229 School supervisors, 400 principals and 5,580 secondary school teachers, The sample used for the study was 357

respondents. The selection of 357 respondents was based on the recommendation of Research Advisors (2006). Stratified random sampling technique was used to select three (3) Zones, out of twelve (12) Zones in the state. This implies that, 25% of the twelve (12) Education Zones in the state was selected as a sample for the study. The instrument was used for data collection is the questionnaire, the likert five-point scales was used in the collection of data. The instrument was validated by experts and was tested with reliability index of 0.74 using Cronbach's Alpha Formula. The purpose of validity was to determine the extent to which instrument items related to the objectives and research questions. The Information from the questionnaire was collated and analyzed, using descriptive and inferential statistics. Descriptive statistics used were frequency counts and simple percentage to analyze the bio-data of the respondents while mean was used to analyze the research questions. Inferential statistics used is Analysis of Variance (ANOVA) to test the formulated null hypotheses and significant difference between the opinions of the respondents. Analysis of Variance (ANOVA) was used because the groups are three and each group was independent. Also, the research involved comparison of opinions of respondents to determine whether there was any significant variation in the opinions. In addition, however, all hypotheses were tested at the 0.05 level of significance.

Table 1: Opinions of Respondents on the Impact of Principals' Supervisory Practice of Record Checking on Teachers' job performance in Secondary School in Kaduna State

S/N	Item Statements	SA		A		U		D		SD		Mean
		F	%	F	%	F	%	F	%	F	%	
1	Principals" regular checking of teachers" lesson note improve their performance in classroom instruction.	95	29.3	57	17.6	69	21.3	68	21.0	35	10.8	3.34
2	Principals" supervisory practice of checking schemes of work enhances teachers" performance.	50	15.4	96	29.6	40	12.3	81	25.0	57	17.6	3.24
3	Principals" supervisory practice of checking C.A record sheet promotes competency of teachers.	108	33.3	130	40.1	34	10.5	45	13.9	7	2.2	3.89
4	Principals" supervision of teachers' lesson plans improve competency of teachers.	118	36.4	170	52.5	14	4.3	22	6.8	0	0	4.19
5	Principals" supervisory practice of checking duty report book promotes the performance of	110	34.0	168	51.9	21	6.5	22	6.8	3	0.9	4.11

	teachers.											
6	Regular checking of lesson attendance register by principals enhances the performance of teachers.	86	26.5	165	50.9	39	12.0	30	9.3	4	1.2	3.92
7	Principals" supervisory practice of checking time book does not improve the performance of teachers.	56	17.3	145	44.8	44	13.6	76	23.5	3	0.9	3.54
8	Principals do guide teachers in the planning of scheme of work and this affect their performance.	70	21.6	115	35.5	54	16.7	68	21.0	17	5.2	3.47
9	Principals" supervisory practice of checking Log books improves the performance of teachers.	72	22.2	120	37.0	39	12.0	61	18.8	32	9.9	3.43
10	Principals" supervisory practice of checking movement book improves teachers" performance.	81	25.0	161	49.7	45	13.9	34	10.5	3	0.9	3.90

Table1. shows the opinions of respondents on the perceived impact of principals' supervisory practice of record checking on teachers' job performance in Secondary Schools of Kaduna State. Item one sought the opinions of respondents on whether principal's regular checking of teachers' lesson note improved their performance in classroom instruction. The results show that 95 and 57 respondents that represent 29.3% and 17.6% of the total respondents strongly agreed and agreed respectively, that principal's regular checking of teachers" lesson note improve their performance in classroom instruction. 69 respondents that represent 21.3% of total respondent did not make any decision on the statement while 68 and 35 respondents that represent 21% and 10.8% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.3, this indicated that majority of the respondents were of the opinion that principal's regular checking of teachers" lesson note improved their perfo rmance in classroom instruction.

Item two assessed the opinions of respondents on whether principals" supervisory practice of checking schemes of work enhances the performance of teachers. The results show that 50 and 96 respondents that represented 15.4% and 29.6% of the total respondents strongly agreed and agreed respectively that principals" supervisory practice of checking schemes of work enhanced the performance of teachers. 40

respondents that represent 12.3% of total respondent did not make any decision on the statement while 81 and 57 respondents that represented 25% and 17.6% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.24, this indicated that majority of the respondents were of the opinion that principals" supervisory practice of checking schemes of work enhanced the performance of teachers.

Item three sought the opinions of respondents on whether principals" supervisory practice of checking C. A record sheet promotes competency of teachers. The results shows that 108 and 130 respondents that represented 33.3% and 40.1% of the total respondents strongly agreed and agree respectively, that principals" supervisory practice of checking C. A record sheet promotes competency of teachers. 34 respondents that represented 10.5% of total respondent did not make any decision on the statement while 45 and 7 respondents that represented 13.9% and 2.2% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.89, this indicated that majority of the respondents were of the opinion that principals" supervisory practice of checking C. A record sheet promotes competency of teachers.

Item four investigated the opinions of respondents on whether principals" supervision of teachers' lesson plans improve competency of teachers. The results show that 118 and 170 respondents that represented 36.4% and 52.5% of the total respondents strongly agreed and agreed respectively that principals" supervision of teachers' lesson plans improve competency of teachers. 14 respondents that represent 4.3% of total respondent did not make any decision on the statement while 22 respondents that represent 6.8% of the total respondents disagreed respectively with the statement. With the mean score of 4.19, this indicated that majority of the respondents were of the opinion that principals" supervision of teachers' lesson plans improve competency of teachers.

Item five sought the opinions of respondents on whether principals" supervisory practices of checking duty report book do not promote the performance of teachers. The results show that 110 and 168 respondents that represented 34% and 51.9% of the total respondents strongly agreed and agreed respectively that principals" supervisory practices of checking duty report book do not promote the performance of teachers. 21 respondents that represent 6.5% of total respondent did not make any decision on the statement while 22 and 3 respondents that represented 6.8% and 0.9% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 4.11, this indicated that majority of the respondents were of the opinion that principals" supervisory practices of checking duty report book do not promote the performance of teachers.

Item six sought the opinions of respondents on whether regular checking of lesson attendance register by principals enhanced the performance of teachers. The results show that 86 and 165 respondents that represent 26.5% and 50.9% of the total respondents strongly agree and agree respectively that regular checking of lesson attendance register by principals enhances the performance of teachers. 39 respondents that represented 12% of total respondent did not make any decision on the statement while 30 and 4 respondents that represent 9.3% and 1.2% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.92, this indicated that majority of the respondents were of the opinion that regular checking of lesson attendance register by principals enhances the performance of teachers.

Item seven sought the opinions of respondents on whether principals" supervisory practice of checking time book does not improve the performance of teachers. The results show that 56 and 145 respondents that represent 17.3% and 44.8% of the total respondents strongly agree and agree respectively, that principals" supervisory practice of checking time book does not improve the performance of teachers. 44 respondents that represented 13.6% of total respondent did not make any decision on the statement while 76 and 3 respondents that represented 23.5% and 10.9% of the total respondents disagreed and strongly disagreed

respectively with the statement. With the mean score of 3.54, this indicated that majority of the respondents were of the opinion that principals" supervisory practice of checking time book does not improve the performance of teachers.

Item eight investigated the opinions of respondents on whether principals do guide teachers in the planning of scheme of work and this affect their performance. The results show that 20 and 115 respondents that represented 21.6% and 35.5% of the total respondents strongly agreed and agreed respectively that principals do guide teachers in the planning of scheme of work and this affect their performance. 54 respondents that represent 16.7% of total respondent did not make any decision on the statement while 68 and 17 respondents that represented 21% and 5.2% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.47, this indicated that majority of the respondents were of the opinion that principals do guide teachers in the planning of scheme of work and this affect their performance.

Item nine investigated the opinions of respondents on whether principals" supervisory practice of checking Log books do not improve the performance of teachers. The results show that 72 and 120 respondents that represented 22.2% and 37% of the total respondents strongly agree and agree respectively that principals" supervisory practice of checking Log books do not improve the performance of teachers. 39 respondents that represented 12% of total respondent did not make any decision on the statement while 61 and 32 respondents that represented 18.8% and 9.9% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.43, this indicated that majority of the respondents, to some extent, were of the opinion that principals" supervisory practice of checking Log books do not improve the performance of teachers.

Finally, item ten sought the opinions of respondents on whether principals" supervisory practice of checking movement book does not improve the performance of teachers. The results show that 81 and 161 respondents that represented 25% and 49.7% of the total respondents strongly agreed and agreed respectively, that principals" supervisory practice of checking movement book does not improve the performance of teachers. 45 respondents that represented 13.9% of total respondent did not make any decision on the statement while 34 and 3 respondents that represent 10.5% and 0.9% of the total respondents disagreed and strongly disagree respectively with the statement. With the mean score of 3.90, this indicated that majority of the respondents were of the opinion that principals" supervisory practice of checking movement book did not improve the performance of teachers.

Table 2: Opinions of Respondents on the Impact of Principals' Supervision of Interactive Session on Teachers' job performance in Secondary Schools in Kaduna State

S/N	Item Statements	SA		A		U		D		SD		Mean
		F	%	F	%	F	%	F	%	F	%	
1	Briefing organized by principals after classroom visit help teachers to improve instructional skills	176	54.3	62	19.1	49	15.1	37	11.4	0	0	4.16
2	Conferences organized by principals give teachers more information about subject matter which makes teaching easier.	72	22.2	162	50.0	45	13.9	39	12.0	6	1.8	4.44
3	Conference organized by principals introduce new techniques to teachers and improve their performance	50	15.4	12.7	39.2	52	16.0	66	20.4	29	9.0	3.32
4	Principals" supervision of conference enhance teachers" performance.	128	39.5	144	44.4	22	6.8	30	9.3	0	0	4.14

5	Supervision of conference by the principals help teachers to solve their instructional problem in the classroom	116	35.8	150	46.3	24	7.4	34	10.5	0	0	4.67
6	Principals" supervision of conference stimulates professional growth of teachers.	95	29.3	139	42.9	37	11.4	45	13.9	8	2.5	3.83
7	Principal" conference with teachers enhance cordial relationship and improve their performance	66	20.4	131	40.4	64	19.8	57	17.6	6	1.9	3.60
8	Principals" supervision of conference keep the teachers inform on how to improve teaching and learning process.	95	29.3	57	17.6	69	21.3	68	21.0	35	10.8	3.34
9	Principals, supervision of conference boost teachers" morale and improve their performance.	48	14.8	96	29.6	40	12.3	81	25.0	59	18.2	3.24
10	Supervision of conference by principal is a valuable technique of improving teachers" performance.	108	33.3	130	40.9	34	10.5	45	13.9	7	2.2	3.89

Table 2 shows the opinions of respondents on the perceived impact of principals' Supervision of interactive session on Teachers' job performance in Secondary Schools of Kaduna State. Item one sought the opinions of respondents on whether briefing organized by principals after classroom visit help teachers to improve instructional skills. The results show that 176 and 62 respondents that represented 54.3% and 19.1% of the total respondents strongly agreed and agreed respectively, that conferences organized by principals help teachers to improve their instructional skills. 49 respondents that represented 15.1% of total respondent did not make any decision on the statement while 37 respondents that represented 11.4% of the total respondents disagreed with the statement. With the mean score of 4.16, this indicated that majority of the respondents were of the opinion that conferences organized by principals help teachers to improve their instructional skills.

Item two assessed the opinions of respondents on whether conferences organized by principals give teachers more information about subject matter which makes teaching easier. The results shows that 72 and 162 respondents that represented 22.2% and 50% of the total respondents strongly agreed and agreed respectively that conferences organized by principals give teachers more information about subject matter which makes teaching easier. 45 respondents that represent 13.9% of total respondent did not make any decision on the statement while 39 and 6 respondents that represented 12% and 1.6% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 4.44, this indicated that majority of the respondents were of the opinion that conferences organized by principals give teachers more information about subject matter which makes teaching easier.

Item three sought the opinions of respondents on whether conference organized by principals introduce teachers to new techniques and improve their performance. The results shows that 50 and 127 respondents that represent 15.4% and 39.2% of the total respondents strongly agree and agree respectively, that conference organized by principals introduce teachers to new techniques and improve their performance. 52 respondents that represented 16% of total respondent did not make any decision on the statement while 66 and 29 respondents that represented 20.4% and 9% of the total respondents disagreed and strongly

disagreed respectively with the statement. With the mean score of 3.32, this indicated that majority of the respondents were of the opinion that conference organized by principals introduce teachers to new techniques and improve their performance.

Item four investigated the opinions of respondents on whether principals‟ supervison of conference enhanced teachers‟ performance The resuts show that 128 and 144 respondents that represented 395% and 44.4% of the total respondents strongly agree and agree respectively that principals‟ supervs ion of conference enhance teachers‟ performance 22 respondents that represented 68% of total respondent did not make any decision on the statement while 30 respondents that represent 9.3% of the total respondents disagree with the statement. With the mean score of 4.14, this indicated that majority of the respondents were of the opinion that principals‟ superv si on of conference enhance teachers" performance.

Item five sought the opinions of respondents on whether supervision of conference by the principals help teachers to solve their instructional problem in the classroom. The results shows that 116 and 150 respondents that represent 35.8% and 46.3% of the total respondents strongly agree and agree respectively that supervision of conference by the principals helped teachers to solve their instructional problem in the classroom. 24 respondents that represent 7.4% of total respondent did not make any decision on the statement while 34 respondents that represented 10.5% of the total respondents disagreed with the statement. With the mean score of 3.07, this indicated that majority of the respondents were of the opinion that supervision of conference by the principals helped teachers to solve their instructional problem in the classroom.

Item six sought the opinions of respondents on whether principals‟ supervs ion of conference stmuates professional growth of teachers. The results shows that 95 and 139 respondents that represent 29.3% and 42.9% of the total respondents strongly agree and agree respectively that principals‟ supervs ion of conference stimulates professional growth of teachers. 37 respondents that represented 11.4% of total respondent did not make any decision on the statement while 45 and 8 respondents that represented 13.9% and 2.5% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.83, this indicated that majority of the respondents were of the opinion that principals‟ supervision of conference stimulates professional growth of teachers.

Item seven sought the opinions of respondents on whether principals‟ supervs ion of conference enhance cordial relationship with teacher and improve their performance. The results shows that 66 and 131 respondents that represented 20.4% and 40.4% of the total respondents strongly agreed and agree respectively, that principals‟ supervs ion of conference enhance corda l reatonshp wth teacher and improved their performance. 64 respondents that represented 19.8% of total respondent did not make any decision on the statement while 57 and 6 respondents that represented 17.6% and 1.9% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.60, this indicated that majority of the respondents were of the opinion that principals‟ supervs ion of conference enhance cordial relationship with teacher and improve their performance.

Item eight investigated the opinions of respondents on whether principals‟ supervs ion of co nference keep the teachers inform on how to improve teaching and learning process. The results shows that 95 and 57 respondents that represented 29.3% and 17.6% of the total respondents strongly agreed and agree respectively that principals‟ supervs ion of conference keep the teachers inform on how to improve teaching and learning process. 64 respondents that represented 19.8% of total respondent did not make any decision on the statement while 57 and 6 respondents that represented 17.6% and 1.9% of the total respondents disagreed and strongly disagree respectively with the statement. With the mean score of 3.34, this indicated that majority of the respondents were of the opinion that principals‟ supervsion of conference keep the teachers inform on how to improve teaching and learning process.

Item nine investigated the opinions of respondents on whether principals, supervision of conference boost the morale of teachers and improve their performance. The results shows that 48 and 96 respondents that represent 14.8% and 29.6% of the total respondents strongly agreed and agreed respectively that principals, supervision of conference boost the morale of teachers and improve their performance. 40 respondents that represented 12.3% of total respondent did not make any decision on the statement while 81 and 59 respondents that represented 25% and 18.2% of the total respondents disagreed and strongly disagreed respectively with the statement. With the mean score of 3.24, this indicated that majority of the respondents were of the opinion that principals, supervision of conference boost the morale of teachers and improve their performance.

Finally, item ten sought the opinions of respondents on whether supervision of conference by principal is a valuable technique of improving teachers" role performance. The results show that 108 and 130 respondents that represented 33.3% and 40.9% of the total respondents strongly agreed and agreed respectively, that supervision of conference by principal was a valuable technique of improving teachers" role performance. 34 respondents that represent 10.5% of total respondent did not make any decision on the statement while 45 and 7 respondents that represented 13.9% and 2.2% of the total respondents disagree and strongly disagree respectively with the statement. With the mean score of 3.89, this indicated that majority of the respondents were of the opinion that supervision of conference by principal is a valuable technique of improving teachers" role performance.

Tables 3: Summary of One-Way-ANOVA on the Perceived Impact of Principals' Supervisory practice of record checking on teachers' job performance in Secondary Schools in Kaduna State.

Variation	Sum of Squares	Df	Mean Square	F-ratio	F-crit.	P-Value
Between Groups	1.718	2	0.859	0.387	3.03	0.55
Within Groups	713.162	321	2.222			
Total	**714.880**	**323**				

P<0.05

Table 3 shows Analysis of Variance (ANOVA) test which revealed that the calculated F ratio value of 0.387 is less than the 3.03 F-critical value while the calculated P-value of 0.55 is greater than 0.05 level of significant set for the study. The null hypothesis is hereby retained. Therefore, there is no significant difference in the opinions of teachers, principals and school supervisors on the impact of principals" supervisory practice of record checking on teachers" job performance in Secondary Schools in Kaduna State.

Tables 4: Summary of One-Way-ANOVA on the Impact of Principals' Supervision of Interactive Session on Teachers' job performance in Secondary Schools in Kaduna State.

Variation	Sum of Squares	Df	Mean Square	F-ratio	F-crit.	P-Value
Between Groups	3.626	2	1.813	0.398	3.03	0.65
Within Groups	1466.963	321	4.560			
Total	**1470.589**	**323**				

P<0.05

Table 4.16 shows Analysis of Variance (ANOVA) test which revealed that the calculated F ratio value of 0.398 is less than the 3.03 F-critical value while the calculated P-value of 0.65 is greater than 0.05 level of significant set for the study. The null hypothesis is hereby retained. Therefore, there is no significant difference in the opinions of teachers, principals and school supervisors on the impact of principals" supervision of interactive session on teachers" job performance in Secondary Schools in Kaduna State.

Summary of Findings

Based on the data collected and analyzed, the following were revealed as the findings.

1. Principals' supervisory practice of record checking such as checking of teachers' lesson note, scheme of work and lesson attendance register enhanced the teachers job performance in Secondary Schools in Kaduna State.
2. Principals‟ supervsion of nteractve sesson such as brefng organzed after cassroom vsit enhanced the teachers' job performance in Secondary Schools in Kaduna State.

Discussions of Findings

Based on the opinions of the respondents, the findings of the study revealed that principals‟ supervsory practice of record checking such as checking of teachers‟ esson note scheme of work and esson attendance register enhance the teachers‟ job performance n Secondary Schoos in Kaduna State. It aso revealed that principals‟ supervsory practce of checkng Log books duty report book and tme book promote the performance of teachers. This finding was in line with the finding of research conducted by Sule, Ameh and Egbai (2015) on the relationship between instructional supervisory practices and teachers‟ role effectiveness in public secondary schools in Calabar South Local Government Area of Cross River State. The study showed that there was a significant positive relationship between instructional supervisory practice of checking of teachers‟ esson notes and teachers" roe effectveness. n ne wth ths fndng s the study of Dangara (2015) which shows that regular instructional supervision using robust supervision strategies like checking teachers‟ es son plan/notes and inspection of teachers record keeping have significant correlation with teachers' performance and academic achievement of students in Secondary Schools. Also, research study by Alimi and Akinfolarin (2012) on Impact of Selected Mode of Instructional Supervision Activities on Students‟ Academic Performance n senor secondary schoos in Ondo State, Nigeria. The study revealed that regular checking of students‟ notes and checkng of teachers" punctuality and attendance help to improve the performance of teachers and students in secondary schools.

Finally, the study revealed principals‟ supervs ion of nteractve sesson such as brefng organzed after classroom visit enhance the teachers' job performance in Secondary Schools in Kaduna State. It also revealed that conference organized by principals introduce teachers to new techniques and give teachers more information about subject matter which makes teaching easier and improve their performance. This finding was in line with the finding of research conducted by Olawoye (2009) on Perceived Influence of Supervision of Instruction on Teacher' Classroom Performance in Ijebu-North Education Zone, Ogun State, Nigeria. The study revealed that the interaction between teachers and instructional supervisor's influenced to a great extent teacher‟ classroom performance.

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APPLICATION OF INFORMATION COMMUNICATION TECHNOLOGY FOR INSTRUCTIONAL DELIVERY IN THE DISTANCE LEARNING PROGRAM OF AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

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Abstract
In fast-growing realm, it is very difficult to assume that anyone in the world would be able to live withoutmodern technologies such as internet and smart devices, that are influencing teaching and learning as a major driving force in the new globalized and knowledge based world. This study examines the use of modern technology for instructional delivery by e tutors in ABUDLC. Case Study Survey research method was adopted for this study using quantitative method with population of 653 respondents. Simple random sampling technique was used to select 249 participants through lottery; instrument for data collection were questionnaire. The data collected for the study were presented and analyzed using descriptive statistics, frequency distribution tables and percentages. Findings show that majority of modern devices were available for use except Artificial Intelligent Tool Bot (AITB), Audio card, Satellite cable and Web room. It also revealed that tutors were averagely skilled in the use of other aspect like online chatting and online surfing of course material except in the use of Artificial Intelligent Devices (AID). The study suggested that the use of modern technology for instructional delivery can be beneficial for both e-tutors and students. With the right technology, e-tutors can effectively create meaningful learning experiences for their student. It was concluded that there is need to provide and make available more sophisticate ICT tools that will meet the demand of 21st century distant education.

Keywords: Information Communication Technology, Instructional Delivery, E-Tutors, Distance Learning Prgramme, Ahmadu Bello University.

Introduction

Information Communication technology and internets are influencing teaching and learning as a major driving force in the new globalized and knowledge based world. These technologies have made remarkable impact on all aspect of lives especially academic activities of students, researchers and scholars alike. Technological devices in tutelage have revolutionized instructive practices (Abdulqadir, 2015). Students with diverse learning styles are able to maximize their learning potential when instructors adequately use modern tools to support their teachings. Modern educational technological devices enable learners to be more independent, reflective and self-regulated in their learning process. In addition, Information and Communication Technologies (ICT) have makes it promising to deliver virtual instructions to students outside the classroom and helps students' master materials and skills, which depends on the teacher's instructional goals, instructional needs and available resources. With the advancement in technology, the field of education has introduces variety of new techniques and strategies for educators and learners to enhance knowledge.

Towhidi (2010) noted that educational technologies are replacing direct teacher-student interface specifically in e-learning centers. Learning systems are changing at great speed and the technology is changing rapidly. Older technology is replaced by new technological phenomena as new ones are being adopted and these are affecting the educational arrangements. Based on technological, structural, and financial capabilities, different types of technologies are applied in E- Learning or distance education systems. According to Pacetti (2008) and Snoussi and Radwan (2020) distance education is one variant of e-learning. Studies such as that of Rahman (2014) described distance education as thedelivery of credit and non-credit instructions where the majority of content expertise and management is at one location and the

majority of student learning activities at another. As literature introduces different terms for distance education to represent Computer-Based Training (CBT), Computer Mediated Instruction (CMI), Interactive Radio Instruction (IRI),Interactive Television (ITV), Quality Assurance (QA), and Web-based Training (WBT) which isused in teaching many subjects, healthcare and medical education etc. While concept of distance education have been proposed by different scholars such as the Association for Educational Communication and Technology (AECT, 2022). Thus, the global submission of distance education has proved to be an approach that is both successful and useful in edification. In developing countries like Nigeria the use of Technologies in scholarly systems is wide spread and continues to grow. Devices and systems such as audio media (audiobooks, audio-cards, audiocassettes, audio Compact-Discs (CDs), telephones, cell phones, audio-texts, radios) and video media (television, satellites, cable television, interactive video, podcasts, weblogs and chat rooms) are used. The most extensive use has been in higher institutions for their instructional delivery in established distance learning (Tolorunleke, Tolorunleke& Haruna, 2022).

Instructional delivery has been seen as the process showing every activity the teacher and the learner does in a classroom setting. It refers to the interaction among the student, the teacher, the content, and the knowledge/skills/dispositions that students will need for learning and collaborating with others in a diverse society and rapidly changing world. Lukman (2021) defines Instructional delivery or models as methods, strategies, approaches or even techniques that teachers employ to deliver his/her subject matter of a lesson to learners. It can as well be regarded as a representation of a pattern in which a lesson is to be presented. The process of instructional delivery must be based on stated objectives of the lesson. Hence, every effort that the teacher makes in order to have a fruitful time with the students by exposing the contents, employing methods, strategies, the pupils interaction with the environment, resources available and even the evaluation process sums up to mean instructional delivery. When a teacher consciously utilizes his training, knowledge, skills and value and relays it in order to change the behavioral position of the learner, he is carrying out instructional delivery.

Open and distance learning is getting more dependent on information and communication technologies(ICT) and internets which has been playing an important role in their delivery strategies while teachers and learners are physically separated, and the instructional materials are conveyed through Information and Communication Technologies (ICTs). Regardless of these benefits every open institution has their peculiar stages in the use of Technologies to arrive at a common core platform, and use of new technologies in the distance education context provides an appropriate starting point for delineating the knowledge base required of expert teachers in today's global society. Teaching the distance learners requires different skills to prepare relevant learning and instructional materials/ delivery to facilitate the construction of knowledge and learning, many distance learning educational centers still lack adequate and strategic use of ICT.

Statement of the Problem

Lately, researchers have paid attention to support for distance learning, they are know-how practical support, as well as other services that aim at making the learner's academic life more comfortable and effective (Daher, Ashour and Hamdan, 2022). Likewise, numerous benefits have been associated with the use of modern tools for education, such benefits includes real time writing with ease, easy access to data base search, easy retrieval of online educational resources, ask the chat GPT tool among others. Various studies have established that technology integration into classroom instruction delivery is a slow and complex process influenced by many factors in Nigeria, including the amount of support the technology requires (Inan & Lowther, 2010).Otherwise, technology provides a remarkable role in making education inclusive as it has the potential to improve educational performance of students virtually hence, it is a necessity for all universities for timely and effective use in teaching and learning. However, institutions in developing countries, specifically in Nigeria, are yet to understand the usability of the modern educational devices as noted by Ndambakuwa and Brand (2020). Little attention is giving to the types of tools and

strategies of using ICT for effective instructional delivery in distance learning institutions as educational institutions worldwide encountered a great challenge in attempting to integrate e-learning technologies into higher education.E-learning is designed and equipped with interactive media that people can interact with anywhere and at any time. Successful e-learning requires a set of prior procedures including preparing the necessary new infrastructure to ensure and maintain a useful and effective teaching/learning process. Hence, there is need to examine the modern technological devices use for instructional delivery and the strategies employed in Ahmadu Bello University Distance Learning Center.

Objectives of the Study

The objectives of the study are to find out:

1. The types of information and communication technology utilized by electronic tutors for delivering instruction in the Distance Learning program at Ahmadu Bello University, Zaria.
2. The skill of e-Tutors in utilizing ICTs for instructional delivery within the Distance Learning Program at Ahmadu Bello University, Zaria.
3. The methods employed by e-tutors for utilizing ICT in instructional delivery within the Distance Learning program at Ahmadu Bello University, Zaria.

Review of Related Literature

The effective integration of modern ICT in education pre-supposes that there must be a paradigm shift from a teacher-centered to a learner-centered learning environment in our educational system. This forms the basis for the acquisition of the knowledge and skills required for a lifelong learning for open and distance learning. To achieve success in the application of information and communication technology in teacher education program, several issues has come to mind towards the use of technologies to create learner-centered environment. Studies (Darab &Montazer , 2011; Daher, Ashour & Hamdan, 2022; Tolorunleke, Tolorunleke& Haruna, 2022) has shown that use of modern technology for instructional delivery is essential to modern educational practices due to the emerging transitional transformation. In their studies, they reported that distance e-learning is an innovative approach to appropriately facilitate education using digital resources in tandem with other educational methods that are offered through an open and flexible educational system. The term open and distance learning and its definition which are relatively new in the field of education, have gained prominence only in the past 15 to 20 years. The open learning system, or televised teaching system, and the distance education are similar terminologies that are used interchangeably.

Types of Information Communication Technologies for Instructional Delivery

Different types of technological tools can be used by people to work with the information and communication processing peculiar needs of their organizations. ICT has played a big role in uniting technological innovations and human being which has brought a big change in our society in terms of economic and social development (Nchekwubemchukwu, 2019). It encompasses the computer hardware and software, the network and several other devices (video, audio, photography camera, and so on) that convert information (text) images, sound, motion and so on into common digital form. The transfer of knowledge and skills to the growing generation is an endeavor that requires adoption of modern innovations to keep pace with the emerging trends in the 21st century education system. One of the innovations that could influence and is still capable of enhancing knowledge delivery is the integration of advance Information and Communication Technology (ICT) such as Artificial Intelligent (AI) at all levels of the education system (Onu & Ezhim, 2019) especially in developing nations like Nigeria.These modern facilities are designed to ease and manage all core aspect of educational institutes at all level. The initiation of this new technology has made tremendous changes in the present day world; there is no area that has not been influenced by these digital phenomena. The advent of ICT in education helped to improve the quality of education where teaching and learning eventually became an engaging active process related to real life (Yusuf, 2012).

In the past, education system relied on electronic devices of mail correspondent, radio and television and distance education clearing house. However, recent teaching and learning activities of distance education system are relying more and more on internet and other sophisticated technologies (Techopedia, 2015 &Tolorunleke, Tolorunleke& Haruna, 2020). The International Information and Communication Technology Panel (2002) as cited in Arafeh, 2004) notes that ICT reflect the convergence and skills that falls into the union of IT and telecommunications. The importance of transmitting instructional materials to distance learner through print, audio and video media to deliver instructional messages have always been stressed by scholars. These technologies and media can be applied in both traditional and modern forms of distance educational system. Here are some technological devices that can be used for instructional delivery in open and distance learning: Audio Compact Disc (CD); Compact Disc Read-only Memory (CD-ROM);Telephone Cell Phone Video Technology and Media; internet; television and Satellite Electronic Book and Electronic Library Asynchronous and synchronous courses; Podcast and Vodcast; Teleconferencing and lately AITB online devices. The AmericanPsychological Association (2002) also noted the application of different types of technology tools in distanceeducation for instructional delivery. Examples are satellite, microwave, cable television, interactive TV, television, directbroadcast satellite, and computer. Others are direct broadcast satellite, Cable television, Closed-circuit television (CCTV), Computer technology, Internet, Telex and Videotex, Weblog (world Wide Web) Electronic mail, Audio-text, Both web and chat room. In Nigeria, these tools are fairly used for instructional andcommunication approach in teaching and learning process even though they have gained significant recognition in other aspect of learning, (Yusuf, 2004).

Level of Skill for Utilization of ICT in Distance Learning in Higher Institutions

People now do a lot of tasks simultaneously without creating extra time for it because of the rate of growth witnessed in the use of new technologies. For instance, a person can be learning while on transit through different gadgets like phones and laptops. Despite this upward trend in technology young people in the developing countries lack technology driven relevant skills and are largely excluded from productive economic and social life (GeSci, 2018). Such skills are required for reason in the rapidly evolving labor market and the technological changes that have opened new frontiers, created new jobs, eliminated others and created new ways of working. ICT skills is now seen by many governments as an important parts of a reactive, demand-driven Educational and Training/ Technical Skills Development (TSD) system aimed at meeting the demand for students in formal and other learning environments UNESCO (2003).

A number of recent studies (Watson, 2006; GeSci, 2018) have shown a positive relationship between the use of technology and academic achievement. Scholars and researchers found that students in technology rich environments experienced positive effects on achievement in all major subject areas and showed increased achievement in preschool through higher education for both undergraduate and special needs. One of the effective means of incorporating trending technology into our instruction is through distance learning. World Bank report has identified distance education as the key to solving the problems facing skill development, such issue includes lack of qualified instructors, the need to greatly increase the delivery of skills training on a wide scale and the need to deliver training at much lower unit cost owing to financial constraints (World Bank Africa, 2001)**.**When ICTs are employed in education, given the right condition, they can accelerate, enrich and deepen basic skills in reading, writing of any subject field. They can motivate and engage students to learn as they become more independent and become responsible for their learning. Sending messages in terms of specific educational objectives to deliver and disseminate instructional materials to learners, Data base searching skills, Online Course Material Surfing, Bookmarking, Word processing, online discussion, Online Assessments among others.

Strategies of Utilizing ICT for Instructional Delivery by E-tutors

Many strategies are being used by managers of many institutions to ensure that academic staff in their institutions uses technologies in their daily duties. One of such strategies as adopted by distance tertiary educational institutions in Nigeria like Ahmadu Bello University Distance Learning Center (ABUDLC) is

that all academic staff must be technical savvy before they are hired. Those already in service without technical knowhow were given a mandate to update their knowledge through series of ICT capacity building workshops. The essence of the use of different instructional delivery strategies and models is to enable the instructor (teacher) surmount the challenges on the organization and passage of the instruction to students who are assumed to have come from different backgrounds, therefore, possess different learning styles, pace and understanding the lessons based on their previous knowledge. From the foregoing, it is clear to us that one model of instruction will not be able to bring about an effective instructional delivery that can produce the kind of result desired from the learners. The nature of the subject will demand for the teacher to employ numerous models, methods, strategies, approaches or techniques to ensure that the learners learn indeed after every instruction.

Modern technologies have become a necessity to open online educational resources and should be utilize in order to achieve educational goals in a digital era. Thus, communication is a crucial element of distance education as noted by the writers. To ensure safe and effective communication, institutions running e-learning must obligated all parties involved in the educational process, including teachers and students, to communicate via the university's official sites like e-mail, or to communicate using the course management environment. It is probable that most of the social media used did not enable sufficient discipline and responsibility, in addition to inability to compel any party to use them. This emphasis on quality communication agrees with the various benefits lie in harnessing new technologies, enhancing students' communication skills, and the need to preserve the sanctity of education even in times of crisis (Poon, 2013).Various instructional strategies adopted in teaching-learning practices have aptly been grouped by Adeyanju (2004) (Ofofuna 2005, in Ndirika, (2011); Omoniyi (2005) and Tolorunleke, Tolorunleke& Haruna (2022) as follows:

- **Computer-assisted instruction Strategy:** An individualized method of instruction using a computer, which requires the student to interact with the computer in a teaching and learning manner with these modes: simulation, tutorial, etc.
- **Virtual teaching Strategy:** A situation which the teachers and learners interact through the video conferencing technique.
- **Instructional slides and tutorial (audio):** Which are teaching and learning aids made and written into compact disc with graphics and texts.
- **Web-based instruction:** This uses the internet and the world web (www) as the main component to learning materials and resources for teaching/learning a course.
- **Multi-threading Strategy:** A feature of the web that enables different parts of a course material to be connected in any order that makes sense to the student.
- **Computer managed instruction:** Which uses as a tool for organizing instruction with three main components which include test and records, instructional guidance and resource components.

Methodology

This study adopted a quantitative research paradigm with a descriptive survey design in finding out the utilization of ICT for instructional delivery by e-tutors in Distance Learning Program in Ahmadu Bello University ABU, Zaria. With a survey research design. This is used when we analyze and describe, for individual situation or event in a particular situation. Case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular institution or system in a 'real life setting. The population of this study is made up of 653 e–Tutors of Ahmadu Bello University Distance learning center. Simple random sampling technique through lottery was used to sample 158 (24%) participants. The instrument was open- ended questionnaire which was distributed to the sampled respondents.

Data Analysis and Discussion

Response Rate

120 (76%) copies of questionnaire were duly completed, returned and found useable for the study. Data was collected quantitatively and analyzed descriptively using tables, figures and percentages.

Data collected in respect to the three objective of the study was analysed and discussed as follows:

Types of ICT used for Instructional Delivery in the Distance Learning program of Ahmadu Bello University, Zaria. This item represented the first research objectives of the study. It sought to find out the types of ICT Technologies available for use for Instructional Delivery in Distance Learning program at Ahmadu Bello University, Zaria. Data collected was presented in table 1 below using check boxes.

Table 1. Responses on the types of ICTs used for Instructional Delivery in Distance Learning program at Ahmadu Bello University, Zaria

S/N	Items	AVAILABLE (V)	NOT AVAILABLE (X)
1.	Audio Media	V	-
2.	Audio Technology	-	X
3.	Video Media	V	-
4.	Audio Cards	-	X
5.	Internets connectivity	V	-
6.	Satellite cable Television	-	X
7.	Interactive Video	V	-
8.	Web Room	-	X
9.	Chat Room	V	-
10.	Telephones and Cell Phone	V	-
11.	Computers	V	-
12.	Asynchronous and Synchronous courses	V	-
13.	Teleconferencing	V	-
14.	Compact Disc and CD-ROMs	V	-
15.	Audio Text	V	-
16.	Podcast and Vodcast	-	X
17.	Weblog	V	-
18.	Radio	V	-
19.	Electronic Mails	V	-
20.	Electronic Books and E- Library	V	-
21.	Artificial Intelligent Tools(AI)	---	X

Table 1 above shows that majority of the tools are available for use by e-tutors except Audio Technology, Audio cards, Satellite cable Television, podcast, Vodcast, web room and AI. These technologies that are not available for use consist of devices that capture lectures and real time discussions for effective delivery of instructions. This finding is in line with that of Techopedia, (2015) and Tolorunleke, Tolorunleke& Haruna, (2020) who opines that recent teaching and learning activities of distance education system are relying more and more on the availability internet and other sophisticated technologies, if some essential tools are not available, it implies that there will be lapses in their usage as tutors will be force to improvise.

The level of skills of e-Tutors in the use of ICT for Instructional Delivery in Distance Learning program Ahmadu Bello University, Zaria.

This item sought to find out the level of ICT skill of e-tutors for instructional deliveryin Distance Learning Center. Data collected were presented in table 2:

Table 2: Responses on the Level of ICT skills by E- Tutors in delivery of instructions to online students

Skills	V H		M		L	
	F	%	F	%	F	%
Data base searching	30	25	68	56.7	22	18.3
Internet browsing	78	65	42	35	0	0
Online Course Material Surfing	80	66.7	38	31.66	2	1.7
Use of keyboard	110	91.7	0	0	10	8.3
Bookmarking	30	25	68	56.7	22	18.3
Presentation	63	52.5	21	17.5	36	30
Spreadsheet	46	38.3	63	52.5	11	9.2
Word processing	78	65	42	35	0	0
Teleconferencing	50	41.7	57	47.5	13	10.8
Online discussion	80	66.7	40	33.3	0	0
Chatting	90	75	25	20.8	5	4.1
Online Assessments	80	66.7	38	31.66	2	1.7

Key: (VH) very high (M) moderately (L) low

Table 2 above described the level of technology skills of e-tutors which shows that 110 of the respondents representing (91.7%) are highly skilled in the use of computer keyboards, followed by chatting skill which is 90 representing (75%) and online surfing for course materials. discussion and assessment is 80 representing (66.7%) respectively. While tutors are moderately skilled in searching of data bases and bookmarking and database searching with frequency of 68 representing (52.7) respectively and spreadsheet used by the respondents in the study area indicated 63 representing (52.5%). Presentation has 36 representing (30%) which shows that some of the e-tutors are not well skilled in the use of presentation for delivering their instructions. The implication for this is that most of the respondents will rely more on online books to deliver even the most critical lectures and writers observation was that tutor are yet to full gain knowledge of Artificial writing skills.

The Strategies employed in the use of ICT for instructional delivery in Distance Learning program, Ahmadu Bello University, Zaria

This item sought to find out strategies employed in the use of ICT tools among e-tutors for instructional deliveryin Distance Learning Center. Data collected were presented in tables using checkboxes. This was presented in table 3

Table 3: Responses on the strategies for using of ICT tools by E- Tutors in delivery of instructions

S/N	Items	USED (v)	Not Used(X)
1	Computer -Assisted Instructional Strategy	V	—
2	Virtual Teaching Strategy	V	—
3	Instructional Slides and Tutorials(Audio)	V	—

4	Web base Instructional strategy	___	X
5	Multi-Threading Strategy		X
6	Computer managed instruction	V	___
7	Communication Strategy	V	___

Key: Used (V) Not Used (X)

In Table 1.3, responses from the respondents show that Computer -Assisted Instructional Strategy, Virtual Teaching Strategy, Instructional Slides and Tutorials (Audio), Computer managed instruction, Communication Strategy were all use by the tutors in ABUDLC while Web base Instructional strategy and Multi-Threading Strategy were not used. Ndirika (2011) distinguished different instructional strategies that were grouped and can be adopted for use in the process of teaching and learning for distance education.

Conclusion

In conclusion, the utilization of information and communication technology (ICT) for instructional delivery by e-tutors in the distance learning program, ABU Zaria, represent a pivotal advancement in the realm of education. Through the integration of innovative technological tools and platforms, such as online lecture, multimedia resources, and virtual communication channels, e-tutors have been able to enhance the accessibility, flexibility and effectiveness of educational delivery. This research have highlighted the significant of ICT in bridging the gap between learners an educators, facilitating continuous learning opportunities, and foster a dynamic and engaging learning environment moving forward as technology continue to evolve, it is imperative for educational institutions to adopt and harness the full potential of ICT to further optimize the distancing learning experiences and empower learners to achieve their academic goals.

Recommendations

The following recommendations are made in line with the findings.

1. There is need to provide and make available more sophisticate ICT tools that will meet the demand of 21st century distant education.
2. There is the need to provide training for tutors in other area of information and communication technology use for effective and efficient delivery of services.
3. To ensure provision of seminars and training workshops to empower the teachers with skills needed for using modern ICT facilities for instructional delivery in the learning process in DL.

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ANALYSIS OF THE ROLE OF TECHNOLOGY IN TEACHING AND LEARNING OF ISLAMIC LEGAL EDUCATION IN NIGERIA

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Abstract
The role of information and communication technology (ICT) in education continues to serve the development of teaching and learning for various subjects, and Islamic legal education is not an exception. The process of teaching, learning and dissemination of knowledge has been in existence from time immemorial in human history. As the body of knowledge grew bigger and bigger with varied dimensions the process of teaching and learning became formal and systematic. The need for methods and strategies to enhance the quality of teaching and learning, therefore, originated. In the contemporary time, the invention in the field of Information and Communication Technology (ICT) has become an important instrument for teaching and learning. The importance of on-line technology in enhancing education, and especially when it comes to teaching cannot be over emphasized. The problem, however, is that the modern instructional infrastructures such as multimedia and Information and Communication Technology (ICT) needed for teaching and learning of Islamic legal education in Nigeria are believed to be either unavailable or inadequate. In most cases, some of the Islamic legal education lecturers are not digitally inclined. Using doctrinal method of research, the paper examines the role of Information and Communication Technology (ICT) in teaching and learning of Islamic legal education in Nigeria. In achieving this, the paper discusses the various ways in which the effective use of Information and Communication Technology (ICT) is used to enhance quality of delivery in teaching and learning of Islamic legal education in academic institutions in Nigeria. The paper finds that Information and Communication Technology (ICT), if properly harnessed and utilized, will go a long way in enhancing the quality of teaching and learning of Islamic legal Studies. The paper recommends that to face the challenges and attain desired results, the government needs to rapidly expand educational opportunities and ensure that educational technology should be given special attention.

Keywords: Information, Communication, Technology, Teaching and Learning, Islamic, Legal Education

Introduction

The world technology means the application of scientific knowledge for practical purposes. Technology is also the application of scientific knowledge for practical purposes in agriculture, medicine, business, industry, etc[1]. It can also be defined as a method to deal with technical problem based on advanced scientific research such as using chemical processes, advanced machining, electronic equipment etc. technology involves the development of science capable of creating its own world. However, technology

cannot evolve without the dynamics of dynamics science. Technology can be defined as the aspect of production of science that simplifies things for human well-being.[2] This can be achieved if it is done in good faith and used properly.

The inventions in the field of ICT have become an essential element in every aspect of human society in today's globalized world. It is dynamic, penetrating and influential. Its contribution to individual, group and societal advancement cannot be over-emphasis. Educational institutions have gradually and increasingly become aware of the need to involve ICT in their efforts to enhance teaching and learning. In Nigeria, the contribution of ICT to the growth of Educational Institutions has been overwhelming.[3] Islamic Legal Education with a large number of students has benefited immensely from the use of ICT. The results in the major Islamic legal educational institutions in Nigeria are quite noticeable.

The main source of science and technology in Islam are the al-Quran and al-Sunnah and other sources if they do not contradict the two main sources. The growth of science and technology in Islamic history can be seen growing rapidly during Umayyad and Abbasid Empires. Well-known Islamic Scholars have made great contributions in various field of study such as mathematics, astronomy, medicine, chemistry, physics, and others. This clearly shows that Islam strongly encourages its people to advance in science and technology for the advancement of human life.[4]

Legal Bases for using Information and Communication Technology (ICT) in the *Qur'an* and *Sunnah*

By its very nature, Islam welcomes every new Lawful invention based on the exploration of the forces of nature. Never can it disallow the use of newer inventions without genuine reasons.[5] The Qur'an and Sunnah are the powerful microscope used in determining the lawfulness or otherwise of a thing. It declares that all things are the creation of Allah, who has created them for the benefit of human beings.

The early generation of Muslims travelled long distance to study at the hands of scholars. They would spend years of their lives travelling from one city to the next gathering knowledge. Nowadays one can travel around the world in less than a day. However, to gain Islamic Knowledge, one does not have to travel at all. This is why online technology is vital for quick search and dissemination of knowledge. In addition to this, the amazing advance in online technology means that Islamic knowledge is at our fingertips. If we want it, we can have it. It is just a matter of making the decision and having the discipline to carry us through.[6]

Evidence that Islam does not interfere with scientific discovery can be seen from an incident that took place during the time of the Messenger of Allah (SAW), who once suggest to farmers that it might be better if they left palm dates trees without cross-pollinating them as they did every year. The following year, farmers complained that the trees did not produce normal yield, so the Messenger of Allah (SAW) said "You know the affairs of your world better" [7]

Based on these the Jurist of the Shafi'i School and many from among the Hanafites holds that all things of the world are lawful to use, except where there are grounds to prove otherwise.

Advent of Information and Communication Technology (ICT) in Nigeria

The first ICT initiative in Nigeria started in the 1950s with focus on print and electronic media. No major policy or other outcome was achieved because of strict government control. The full awareness of the importance of ICT was absent. Only the private sector demonstrated ICT initiatives.[8] The Obasanjo administration in 2001 established the National Information Technology Development Agency (NITDA) to serve as a bureau for the implementation of National Policy on Information Technology. NITDA is trying to increase the Internet penetration levels in Nigeria. Aminu, I., opines that institutionally up to the mid-1980s, if a person wanted to talk, learn, or use computers, or do serious data-crunching analysis, etc, the person needs to visit the University Computer Centre, or to the National Teachers Institute[9]

The Role of ICT in the Teaching and Learning of Islamic Legal Education

Teaching-learning process is a means through which the teacher, the learner, the curriculum and other variables are organized in a systematic manner to attain pre-determined goals and objectives. When used appropriately, the facilities of ICT is said to help and expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life. ICT offers various technologies that can be used by the humans in order to facilitate their routine activities.[10] Using Information Technologies learners are now able to participate in learning communication throughout the world. They are independent and free in choice of their programmes of study and access to the resources. They may learn collaboratively, share information, exchange their learning experiences and work through cooperative activities in virtual learning communities.[11] ICT help to facilitate teaching learning process in more productive fashion.

Similarly, the role of teacher is also different in new settings than in the conventional system.[12] Teacher facilitates and guides the learners in their study playing the role of a coach or mentor. Now teacher is not at the centre of the instruction and sole source of information as in conventional classrooms. In a nutshell, information technologies are restructuring teaching learning process to meet the international standards. Moreover, ICT is use in the following ways:

i. It Improves the Quality of Education.
ii. It transforms learning environment into learner centered

The Use of ICT by Students and Teachers of Islamic Legal Education

Generally, Students use ICT to:

(i) Participate in a media revolution, profoundly affecting the way they think about and use of ICT.
(ii) Improve the ways of learning in new learning fashions.
(iii) Extend the ability and skills of applying their learning in real situation.
(iv) Working in groups for cooperative and collaborative learning
(v) Developing self-learning habits at their own pace and time.
(vi) Learn with teacher rather by the teacher.
(vii) Develop inquiry-learning habits.
(viii) Use right information at right time to achieve right objective. Review and explore qualitative data.
(ix) Exchange learning experiences and information with other students and teachers living anywhere in the world. On the other hand, teachers of Islamic Lgeal Education use ICT to:

(i) Present the material in more interesting and attractive way.

(ii) Guide and help students in searching the qualitative material.
(iii) Make best use of time.
(iv) Provide individualized instruction.[13]

Facilities Offered by ICT

The facilities offered by ICT include, but not limited to, the following: i. Electronic Mail allows messages to be sent from a sender to the receiver over the internet. It is the most popular service of the internet. ii. Graphical World Wide Web Offers a graphical web browsing facility to make the web a better place for both graphical and text information. iii. iii. File Transfer Protocol (FTP)- It's an internet service that provides a system for transferring files between computers. FTP clients can either be dedicated FTP applications or built into Web Browsers. FTP stored directories of files using a hierarchical structure. Normally, a user is a client, and a company acts like the server. There are many resources on the Web that can enhance teaching and learning. People can even take university courses and other classes on the Web. Web is an excellent source of research material. You can find reports, statistics, directories and much more. To browse or surf the internet for information or search the net, one needs a search engine tool, which are numerous. Some of them are: i. Yahoo! URL: http://www.yahoo.com -It is the most popular search engine and has links printing to various categories so that you can narrow your search. ii. Google URL: http://www.google.com-This is another useful search engine that can be used to search for information in education, politics, government, commerce, health and so on. Several books, journals, magazines, encyclopedia and newspapers can be surfed here. English and other languages can be adopted in browsing for a particular topic of any field in Google site. iii. Alta Vista: URL: http://www.altavista.digital.com-It is very good for non-common sites or very far home page but at times too comprehensive for what is required.
iv. Excite: URL: http://www.excite.com

The Nigerian National Information Technology Policy

The ''Nigerian National Policy for IT; was developed by the Federal Government in March 2001 through the Federal Ministry of Science and Technology. The National Information Technology Development Agency (NITDA) was established in 2001 and charged with the implementation of the policy. (FMST 21).

The policy is designed to ensure that Nigeria as a nation recognizes the strategic importance of ICT for national development. The adoption of the national policy is a critical step towards incorporating ICT application in every sector of the nation's life and in particular in education. In the 31 stated objectives of the policy, three are education specific and indicate that information technology must be used to:

- Empower the youth with IT skills and prepare them for global competitiveness.
- Integrate IT into the mainstream of education and training.
- Establish new multifaceted IT institutions as centers of excellence to ensure.

Human Resource strategies targeting capacity building for IT knowledge and skills in education include the following:

a. making the use of (ICT) mandatory at all levels of educational institutions;
b. development of ICT curricular for primary, secondary, and tertiary institutions;
c. use of ICT in distance education;
d. ICT companies investment in education;
e. study grant and scholarship on (ICT);
f. training the trainer scheme for National Youth Service Corp members;

g. ICT capacity development at zonal, state, and local levels;
h. growth of private and public sector dedicated ICT primary, secondary, and tertiary educational institutions; i. working with international and domestic initiatives for transfer of ICT knowledge.

Components of ICT for the Teaching and Learning of Islamic Legal Education

Teaching and learningfacilities are the tools designed majorly for assisting lecturers in explaining topics and enhance the learners' grasp of the educational information disseminated. These facilities are available in various forms as follows:

Multimedia

The term multimedia by definition means "more than one media". According to Hofstetter (2001, multimedia is the use of computer to present and combine text, graphics, audio and video with links and tools that let the user navigate, interact, create and communicate. In other words, multimedia is the combination of various digital media, into an integrated multi-sensory interactive application or presentation to convey information to an audience.[14] Other than that, interactivity is also part of the elements that are required in order to complete interactive communication process through the use of multimedia.[15] Originally, a multimedia presentation did not have to be digital. For example, multimedia might have incorporated a slide show for visuals, a tape recorder for audio, and an overhead projector for text. But as software and hardware became capable of and adept at handling more than one media, the term multimedia was coined to define computer software applications and presentations that utilized more than one media.

Multimedia which encompasses animation, audio, video, graphic – both two dimensional (2D) and three dimensional (3D) is another one of the most complex and rapidly changing areas in ICT. It can be very entertaining, especially if it is equipped with high-end computers, all the necessary plug-ins installed and access to the Internet at a quiet time. Multimedia elements, if they are efficiently utilized can be useful tools to enhance the teaching and learning of Arabic and Islamic Studies. Audio and video technologies are widely used by most of the websites in order to improve the way information are delivered, rather than presenting them in the text-based format. Al-Islam.Com (http://www.al-islam.com), IslamiCity.Com (http://www.islamicity.com) and IslamOnline.Net (http://www.islamonline.net) are among the Islamic websites that enable the users to listen for the khutbah or lectures conveyed by prominent Muslim scholars.[16]

Microsoft PowerPoint Slides as a Tool in Teaching and Learning Arabic and Islamic Studies

Microsoft Power-Point if efficiently used can enhance the teaching and Learning of Arabic and Islamic Studies. Microsoft PowerPoint programme can be used to modify the contents of the material for presentation in the Class. It helped to represent them in a more meaningful way, using different media elements. By incorporating multimedia elements into the project, the students can be able to learn better since they use multiple sensory modalities, which would make them more motivated to pay more attention to the information presented and retain the information better. [17]

Internet as a Wonderful Teaching AID

In the borderless globalization of information era, internet plays a vital role as knowledge disseminator. Nothing can stop us from getting what we want to know, we want to see and we want to listen because internet can be accessed by everybody. Whether it is harmful or useful, it depends on us how to decide.

One of the famous websites to use in enhance is YouTube website. You-Tube is a popular video sharing website where users can upload, view and share video clips. You- Tube has become an enormously popular form of Web 2.0 new media. A recent article in Wired cites an average of 65,000 uploads and 100 million videos viewed per day on YouTube. This number shows how great the response that YouTube gets from the viewers especially teenagers. That is why, in teaching Islamic Studies, researcher also had integrated some related video clips from this website into teaching and learning process, because video can be a powerful educational and motivational tool. However, a great deal of the medium's power lies not in itself but a means toward achieving learning goals and objectives.[18] Effective instructional video is not television- to student instruction but rather teacher-to-student instruction, with video as a vehicle for discovery.

Islamic Distance and Online Education

Through the distance and online programme ICT is use to enhance the teaching and learning of Arabic, Islamic Studies and Islamic legal studies[19]. Prophet (SAW) Said: "Seeking knowledge is a religious obligation upon every Muslim" (Narratted by ibn Majah).Allah (SWT) has blessed us to live in a time when access to Islamic knowledge is easy and inexpensive, such that there is no excuse for not seeking proper and authentic Islamic Knowledge. The early generations of Muslims used to travel long distances by foot or on horseback to study at the hands of a Scholar. They would spend years of their lives traveling from one city to the next gathering knowledge. It is a well known that collectors of Hadith would travel for months to a far-away city, just to get one single Hadith from a narrator and to ensure the chain of narrators is valid. At their time, travelling was very difficult, dangerous and time consuming.

With the fortunate development, in the field of ICT there are number of Islamic Universities that offer Arabic and Islamic Studies online or through distance education. The following is a list of the top ten most popular and trustworthy of these Islamic Universities:

i) American Open University: The AOU is an independent and non-profit Islamic University based in the United States. The AOU offers many degree programs in Arabic and in English, Including Diploma, Bachelor, Masters and Doctorate degrees. Their website is: http://www.aou.edu.

ii) American Open University-Egypt Office: The same as the American Open University discussed, page above. However, serving the Middle East region. Their website is : http://www.egypt.com

iii) Sharta Academy of America: An independent educational Institution, with its headquarters located in Tampa, Florida in the USA Sharia Academy adheres to the Quran and Sunnah, and aims to spread Islamic Knowledge in a moderate and balanced framework. The Academy offers Islamic education orally, by video-conferencing and interactive live broadcasting through the internet available to students all around the world. Their website is :http://www.Shariaacademy. com35

iv) AlMagrib Institute: Provides courses on Islam in six-day, two weekends, intensive seminar format, towards a Bachelor's degree in Islamic Studies. Scholars teach the courses live and in person in many cities in North America. Although the main program is not online, they do have some online activities and seminars, Their website is :http://wwww.almagrib.org

v) Islamic Open Academy (Arabic Only): Free Islamic Courses in Arabic online, with course materials, live and recorded audio lectures all available online. Top three Student get cash prizes! their website is :http://www.Islamacademy.net

vi) Islamic Online University: Founded by Dr. Bilal Philips, offers an accredited Bachelor Degree in Islamic Studies in English. Courses are offered online. Also offers a number of free courses. Their website is: http://www.Islamiconlineuniversity.com

Impediment to Successful ICT Integration for the Teaching and Learning of Islamic Legal Education

Despite the importance of technology in Islamic Legal Studies and education in general, several schools in Nigeria still lag behind in the integration of ICT. Several factors account for this situation. Five factors have been identified, especially as they affect the universities in Nigeria. These factors are organizational structures, infrastructural constraints; and government policy. Ibrahim, listed the following as obstacles or barriers to technology (ICT) integration in Nigerian schools;

1. Poor implementation of ICT in African school,
2. Lack of teachers' confidence and teacher's computer anxiety,
3. Lack of teacher's confidence due to lack of time for training,
4. Lack of resources,
5. Lack of time to use ICT as a result of school time table,
6. Lack of support,
7. Infrastural challenges such as erratic power supply,
8. Lack of or ineffective technological leadership in schools,
9. Lack of clear vision, x Lack of incentive for teachers,
10. Exclusion of teachers in the planning for ICT integration, and
11. Teacher's technology beliefs are yet another obstacle.[20]

Conclusion

ICT, as represented by internet, has given us fabulous opportunities for accessing information not easily available through traditional means. Information Technologies make it possible to tailor the content and delivery of instruction to the needs of individual students. The result is that individual differences in learning styles and preferences can be better accommodated. .ICT provided many opportunities through its applications provide many opportunities. It is a part of the society. Thus, its applications can be efficiently utilized in promoting Islamic teachings.

It is, therefore, the responsibility of Muslims to use and master in this new technology, as well as to put their efforts to learn and comprehend Islamic teachings. In the future, Students will be able to choose the instructional format appropriate to their level of knowledge. The internet also offers an instructional environment in which assessment may be easily integrated into the learning process. This is relevant to every field of study, Islamic Legal Education inclusive.

This paper, therefore, finds as follows;

(a) ICT access needed for teaching and learning of Islamic legal education in Nigerian are believed to be either unavailable or inadequate.
(b) Some Islamic legal education lecturers are not digitally inclined. Thus, the usage of ICT facilities possess problems for these lecturers.
(c) Inadequacy of teaching and learning methods plus current and up to date instructional materials effects learning and causes undue wastage of time, while application of modern and adequate methods enhances and influences students' academic performance.

Based on the above findings, this paper proffers the following recommendations:

(a) To face the challenges and attain desired results, the government needs to rapidly expand educational opportunities and ensure that educational technology should be given special attention.
(b) To assure that internet technology is used to its best educational advantage, teachers must be trained in the most effective ways to use it. They most learn how to transfer their courses to an online environment.
(c) Islamic Legal Education Teachers should arrange to be trained in IT so that they ensure its proper usage in their quest to inculcate religious knowledge. If the teachers master the genie of technology and techniques of message design for the internet, they will have a much better chance of achieving the objectives of the course.

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EFFICACY OF SOCIAL STUDIES EDUCATION AND INTERNET FOR SUSTAINABLE DEVELOPMENT IN POST-COVID-19: ISSUES AND CHALLENGES

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Abstract
The Internet has its fundamental prerequisite needed by all to outlive the challenges of the 21st century. Quality Social Studies Education for sustainable development is significantly necessary for today's Nigeria in post-covid-19. The paper pointed out that the Internet can be used for quality Social Studies Education for sustainable development in Nigeria. Suggestions on how to use the Internet for quality Social Studies Education for sustainable development were made. The paper employed a qualitative study approach. It discussed the Internet and quality Social Studies Education for sustainable development. It further discusses Social Studies Education and the concept of the Internet. It also looked at various scholars' views on sustainable development. It went further to examine the interaction with the Internet and the Internet for quality Social Studies Education for sustainable development. These include, among others, exposure of Social Studies teachers to internet usage for quality Social Studies Education for sustainable development, corona virus (civid-19), issues & challenges and impacts on the sustainable development of the educational system in Nigeria. Therefore, Social Studies and Civic Educators of Nigeria (SOSCEAN) as professional body, shall serve as functional synergy amongst the Federal Ministry of Education, in redesigning Social Studies educational curricular, amongst other measures, will drastically curtail the challenges of post Covid-19 in the country.

Keywords: Quality Social Studies Education, Internet, Sustainable Development, Post-COVID-19.

Introduction

As the world changes, facts and knowledge change rapidly, Teaching and learning activity in schools also have to change. Momentous changes in research and studies about curriculum development and instructional methods in Social Studies Education are tasking to traditional and conventional thinking in Social Studies teaching. This post a challenge of swift development of electronic communication and computer technology specifically, the Internet, an easily accessible means of electronic interaction and research, and computer technology and electronic communication components may improve education quality and transform, institutionalise new and innovative methods to teaching and learning. Internet application in education can enhance education quality through the expansion of learning opportunities and education accessibility. Due to these advantages, the National Council on Education supported computer technology utilisation in schools in the 1987 meeting (Federal Republic of Nigeria, 2013). Social Studies education as a programme of study has the power to instill in the recipient the knowledge, skills, values and attitude that would help him interact meaningfully, effectively and co-operatively in his social and physical environment (Oyibe & Nnamani 2016).

In enhancing education (Social Studies Education inclusive) for sustainable growth and development in Nigeria, School Net Nigeria, which is internet services in schools, was launched in September 2001 (Federal Ministry of Education, 2005). School Net Nigeria resulted in students and teachers' learning communities utilising the Internet to enhance educational development in the country (FRN, 2013). Therefore, improving the quality of Social Studies using the Internet for effective teaching and learning to promote sustainable development is essential. There is a need to stimulate ways to promote problem-solving skills, critical and innovative thinking skills. Passive, teacher inculcation of facts, skills and direct instruction as an acceptable teaching approach in Social Studies Education should give way to active and studentcentred approaches to replace conventional or outdated methods. These active approaches should be employed using the Internet through social media for interaction between teachers and teachers, students and teachers, and students and students. Also the delivery of lectures, content materials, assignments, reading, writing, observing, debating, and use of statistical data to advance critical or high order thinking, proffering solution to problems as well as decision-making skills through the utilisation of internet materials such as internet sources, historical maps, literature, computer software, artifacts, photographs, films, computers, and television, that assists in learning (Iboro, 2016). The outbreak of the Covid-19 pandemic affected all facets of human endeavour worldwide, including education. The pandemic's veracity was challenging and difficult to bear, and the educational sector, Social Studies education inclusive, was the worst-hit by the pandemic. As part of means and measures to control the spread of the Covid-19 pandemic in Nigeria, the government ordered schools' closure, including tertiary institutions. The pandemic no doubt unmasked considerable lapses in the educational sector (Agbele&Oyelade, 2020). Sambo, Oyelade and Ibrahim (2020), assert that schools closure disrupted the teaching and learning process in the country and affected lots of assessment and examinations period – both local, national and international examinations. The implications were that millions of students were forced to defer their studies to a later year. COVID-19 schools closure led to the suspension of teaching and learning, internal, external, and semesters of Social Studies Education examinations from basic level 1 to tertiaries institutions. It also affected the academic calendar programme of Social Studies Education in Nigerian schools across the nation for significant school activities, and examinations were postponed. Social Studies Education is an integrated subject that study man and the outcome of man's interactions in his numerous environments. Though Social Studies Education is designed to impart knowledge and provide useful information essential for life, its vital function is to help inculcate and promote students' desired values, attitudes, and social habits. It also includes valuable skills required for the survival of the individuals in society and the world (Odor & Nwaham, 2005).

Shitta (2002) explained, that the Iternet, connects and transforms the world into a global village where people without difficulty get in contact, see, touch, connect and interact with one another, share ideas and information instantly and swiftly from where they are located to other parts of the world. Eze (2012) viewed Internet as an abbreviation for international network communication. The Internet is the largest computer network globally, linking millions of computers. It is also known as the Information Super Highway. The Internet is a non-commercial worldwide network of networks, some of which focus on education. Social Studies Education quality improvement through the Internet would replace traditional teaching methods that support the principal theory of teacher transmitting or transferring knowledge to learners and learners trustily absorbing this knowledge or information (Green, 2001). Changing the manner and way students think and promote and advance higher-order/critical thinking skills presents a severe challenge to teachers. Mere dependence on the use of sources, artifacts, historical maps, and data sets and the like is not enough. Pechman (1992) asserted that schools attempt to impart students on the usage of standard tools of academic disciplines. Still, many students find limited opportunities or chances outside of school to apply skills and knowledge inculcated. One solution to this problem is improving the quality of Social Studies education through the use of the Internet for better engagement of students' interests on issues and affairs in their immediate environment and globally.

In recent times, most conferences themes in Social Studies for about a decade now have focused on improving quality Social Studies and sustainable development. These conference themes reflect the increasing consciousness that enhancing the quality of Social Studies Education is vital not only for a lively nation's sustenance but also to maintain national development. Researchers such as Iboro (2016), Gurcan (2015), Okobia (2015), Goodyear, Casey and Krik (2014), Menkhoff, Chay, Bengtsson, Woodard and Gan, 2014 and Atubi and Obro (2020) stressed that forms of technologies such as social media (Whatsapp, Messenger, Facebook, Twitter, blogs) could together be a stimulus to both students and teachers. This would enable them to participate actively, contribute and communicate with one another on educational issues and activities. Dzvapatsvia, Mitrovic, and Dietrich (2014) argued the internet technologies which have grown and become widespread could enhance traditional teaching methods. Yunita, Nursechafia, Setiawan and Nugroho (2018) in their study revealed that the useage of mobile phone application such as Facebook, zoom, webnar, whatsapp, etc improve students' performance and students were excited using these applications for their study. Halil (2020) in the study on the effect of Edmodo as online learning tool in during covid-19, observed enhanced students' performance and those students enthusiastic in using the tool for learning.

Conceptual Clarification

It is pertinent to briefly clarify certain concepts used in this paper to aid our understanding and appreciation of the topic under discussion as this will provide the road map for analysis and evaluation of the work.

Social Studies Education Social Studies as a course of study differs from one country to another in terms of conceptualization, scope, content and application. This is based on the objectives it is set to attain in such a country. The concept, thus, marks out the scope and content of the subject in any country it is embraced (Ezegbe, 2012). Okan (2002) expatiated that Social Studies is meant to lead and guide the individual to discover motivation, interest and excitement in the process of social living and education through exploration, investigation, inquiry and discovery. It is concerned with the timely and necessary use of curriculum content that students see as appropriate but principally stressed the need to help students build the skills and attitude vital for democratic living (Atubi, 2019). It cut across exploiting man's environment to desired skills and competencies needed to protect and preserve man's environment. Social Studies Education is chiefly interested in the study of man and the environment in which he lives, where and how he lives, how man govern himself and the formation of societal structures and institutions for the greater good and betterment of society in which he lives (Onyeaghor, 2015). According to Nzegbulem (2014), Social Studies Education main objective is to help the youths make knowledgeable and logical decisions for societal good as members of a multi-ethnic or society with diverse cultures in an interdependent world. Social Studies education inculcates the learners the desirable skills, attitudes and values to become valuable and active citizens who are nationally conscious and responsive to their country's challenges. The nature of Social Studies Education is that of a spiral and incessantly expanding curriculum in areas of content or subject matter enrichment and integration with contemporary or current emerging events/issues (Mezieobi, 2012). Improving quality Social Studies Education depicts the inculcation of the right type of values, the functionality of teachers' operational skills, and the capability to implement the Social Studies Education curriculum to accomplish sustainable development.

Covid-19 Pandemics: 'Co' stands for corona, 'vi' for virus, and 'D' for disease. The Covid -19 pandemic is also known as the corona virus pandemic, is an ongoing global pandemic of Corona virus disease 2019 (covid-19) which is caused by severe acute respiratory syndrome corona virus 2 (SARS-COV-2). The virus was first identity in December 2019 in Wuhan china (Gala 2020) it was regarded one of the deadliest pandemics in the History.

The Internet: The word Internet originates from the words "Internet Connection Network". The Internet has been the greatest and one of the revolutionary inventions of the late 20th century. The Internet is a

global or worldwide linking of computers that allows and involves information transfer (Schneider, Evans & Pinard, 2006). To Iyendo and Halil (2015), the Internet is an electronic network that links computer networks worldwide. In its submission, the World Telecommunication Policy Forum (2013) defined the Internet as an international collection of connected telecommunication networks that available for the interface of corresponding data and information systems; and their users, through transporting of information traffic employing a protocol, a single system of identification, naming, actions, addressing, numbering, and so on. This definition did not include the applications and services the Internet offers on the network but only the network itself. The United States Federal Networking Council (USFNC) (1995) emphasised that the Internet is logically connected by a universally or globally distinct address space supported on the Internet Protocol (IP). This is a very comprehensive definition because it incorporates the applications and devices that operate on the IP/TCP protocol, likewise the hardware linked by that protocol. This comprehensive description would seem to correspond well to what is generally meant by the Internet. The types of services convey by the Internet are countless. Among the services rendered, e-mail is the most popular. Others are the World Wide Web (WWW), file transfer protocol (FTP), voice traffic, file sharing and newsgroups.With computers, digital assistants that use dial-up, landline broadband, terrestrial wireless, mobile phones and satellite links devices, the internet services can be accessed. At present, it had profound effects on several areas of human endeavour, and, in the views of many scholars and professionals, the Internet transformation has just started (Apuke&Iyendo, 2017).

Sustainable Development: Sustainable Development Formerly, attention was chiefly on the concept of development, but there was a shift in awareness when the Bruntland Commission reshaped and modified the concept to Sustainable Development. In numerous ways, sustainable development is conceptualised. Still, the most regularly cited definition is from the Bruntland Report (2013), which asserted that sustainable development meets the present devoid desires of disrupting future generations' ability to meet their needs. It connotes the concern for social and economic security, good health, and the environment socially and physically (Akpama, Bessong&Bessong, 2017; Atubi, 2020). For Shittu (2017), sustainable development has to do with ensuring the satisfaction of the needs of the present generation and national resources are not depleted or endangered to satisfy the needs of future growth and protect the livelihoods of future generations (Kayode, 2012). This implies it guarantees the national resources and economic destiny, not to mortgage future generations' needs unjustly. Akinjide (2011) expatiated that sustainable development ensures the creation of national health, economical progress, and prosperity, democratic, a classless and better society, based on equitable or just distribution of resources to bring about social justice, fairness and dignity of the human person.To be sustainable, growth and development must combine three core statements: fairness, environmental protection and efficiency; this indicates the preservation or security of the socio-economic and ecological balance in the use of natural and human resources (Legrand Report, 2012). The motivating aspect or part of sustainable development is that it considers people's present circumstances without compromising that of the future ones (Atubi, 2020). Therefore, sustainable development's concept and principle continue to be the modern parameter or yardstick of measuring development.

Digital Media Teaching Platform (Online Teaching Platform)

An online teaching platform is defined as digital service that facilities interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through service via the internet. It is also known as virtual classroom sessions. Zoom, Edmodo, Google classroom, WhatsApp class room, and Microsoft teams, Skype etc.

Lockdown Period

Lockdown is the confinement of people in their rooms as security measures after disturbance. During lockdown people are expected to stay at home in an attempt to either halt the ravaging impacts of the novel viruses or minimize the covid-19 significantly, the option of lockdown seems to be mostly adopted globally. Nigeria facing with the most challenging stage of covid-19 virus the government adopted the

lockdown as a measure to address the situation. The prime aim of lockdown is to flatten the Covid 19 curve through a persistent reduction in the confirmed cases, and ensuring that infected persons quickly recover from the virus. Also, location of contacts such as schools, universities, hotels, clubs and religious houses are closed, social gatherings involving above 20 people are prohibited and economic activities involving physical interaction are halted.

The first phase of lockdown was announced by the president on 27 April, 2020 with effect from May 4 to 17 spanning two weeks in FCT, Lagos, and Abuja. In addition to the gradual easing of the lockdown, a nationwide curfew of 8pm to 6am was equally announced. Two weeks extension of the first phase was further declared which lasted from 18 may to 1 June, 2020. Phase two commenced on 2nd June 2020 and lasted for four (4) weeks which ended on June 29. Phase three (3) which was commenced on 30 June, 2020 following the approval of the 5th interim report of the president which ended on 27 July, 2020.

Education during Corona-virus Outbreak

As a response to coronavirus (Covid-19) pandemic, most governments around the world locked down their populations and closed their schools in an attempt to curtail the spread of the virus. The Covid 19 pandemic has affected educational system worldwide, leading to the near total closure of schools. Most governments decided to temporarily close educational institutions in an attempt to reduce the spread of Covid-19. However, in response to school closures UNESCO recommended the use of distance learning programmes and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit disruption of education.

As a result of the lockdown, some schools had to quickly move from traditional face-to-face teaching method to virtual learning in order to ensure learning continues during lockdown. Both the teacher and the students had to adapt swiftly to new mode of education. Most universities involved in online teaching provided students with learning materials and pre-recorded lecture video. Remote teaching was done through online learning management teams such as Zoom, Edmodo, Google Classrooms, and Microsoft Teams. Course materials are pre-recorded; lectures were also sent to students' emails, uploaded to learning software and sometimes sent to students WhatsApp learning groups.

Online teaching in Nigeria was both Asynchronous and Syndronous. In asynchronous learning, students can communicate and complete activities at their own time and space, while synchronous learning activities occurred through live video and/or audio with immediate feedback (Hrastinski, 2008). Management teams in these universities ensured that the quality of teaching was maintained and appropriate methods which address some of the limitations of remote teaching were used. Essays, presentations, reports, quizzes, assignments, activities adopted, while most assessments were done via virtual multiple-choice questions and oral examinations.

Several universities in Nigeria did not prepare for any contingency that may affect education such as Covid-19 pandemic lockdown. Definitely, teachers and students faced challenges in adapting the online classes and maintaining the minimal communication to support learning and development. Migrating to remote learning (virtual learning) within short period was difficult, especially in the developing country like Nigeria where advanced technology has not been well integrated into the educational system.

Impact of Covid-19 on Education

i. As a result of school's closures, about 35.9 million primary and secondary schools' learners are currently out of school (Unecsco 2020)
ii. Financially, as a result of the pandemic governments, parents, individuals, ministries of education at various levels have to shift in, the plans and strategies to finance the education of their children and educational system at large.

iii. Parents were forced to procure laptops, android phones, television, cables and other means of ICT, this is to ensure their wards more with the innovative of the online classes at various levels.
iv. Developing private schools in Nigeria could not afford the payments of their staff during the period of lockdown because students are not in schools.
v. The graduates and school leavers, there is no doubt that students have been held on a spot; they were unable to graduates or even move to the next level in their academic pursuits, this is also a great obstacle.
vi. The learners' welfare, some learners especially those from disadvantaged and vulnerable backgrounds, the daily meals provided at schools (during school feeding program) are their primary source of healthy and nutritious meals. Now that the schools are closed, over a million public school students are currently being deprived of this benefit (Unesco 2020).

The Internet and Quality Social Studies Education for Sustainable Development in Post Covid-19

The primary goal and objective of Social Studies Education is to produce welltrained citizens, effective and equipped, and willing to be involved and participate in democratic life (Kaya, 2008). According to the day's conditions, this type or sort of citizens are actively engaged in individual and social activities and can answer the questions passed to them by filtering the information coming from the social environment (Sunal & Haas, 2005). Social Studies Education classes aim to revise social planning thoroughly and make students ready to meet society. For this reason, teachers and students must be prepared for the informational revolution and the effects of the Internet in society (Kaya, 2008). Right at this point, one may claim that using the Internet, just like any other educational resources, will help not only Social Studies Education but also for sustainable development. One may argue that using the Internet to bring about quality of Social Studies education for sustainable development has become important in recent times and years. Bolick (2002) identified three main categories in which the Internet would help improve Social Studies Education's quality for sustainable development as cooperative communication, data collection, and multimedia activities. The utilisation of the Internet in Social Studies Education instructions would facilitate and motivate students' active involvement in exploring information that can help solve real-life situations and problems (Okoye & Udegbe 2004). Thus, programmed and documented Social Studies Education teaching utilising the Internet would assist students in their learning process. For pertinent and vital data, ideas, knowledge, skills, learning experiences, thought-provoking and higher-order drills are disseminated through the Internet for the benefit of users (learners) (Nnabuo&Asodike (2016).

Education after Corona virus Pandemic (Managing Corona virus Pandemic in Nigerian Educational System)

The Corona virus response monitoring plans by UNICEF Nigeria (2020), Nigeria Education Sector maintains a response monitoring tool named 5W matrix (who is doing what, where, when and for whom) for monitoring education sector partner's activities under the current covid-19 contingency response. While the pandemic is still on, partners are submitting their reports on a monthly basis to the education sector secretariat appointed team. Based on the submissions, the education sector secretariat team on a regular basis developed maps and other tools to strengthen the coordination on the response; they ensured proper documentation in identifying gaps and prevent duplication of activities.

Programmes during and after this pandemic period. The monitoring team system also aimed to minimize reporting requirements to partners while at the same time provide regular required information about the progress of programme implementation and ensure alignment with (to be) amended Humanitarian Response Plan (HRP). Along the line there was regular partner participation in this monitoring is critical to maintaining strong coordination because it was observed that it is through joint efforts, we all can end the continuous grips of corona virus. This was view to continuously allow the sector to visualize gaps and needs, build partnerships and collaborations, and advocate on behalf of the entire sector.

The sector has on a regular basis conducting monitoring meeting on Covid-19 response at least twice a month since the inception of the pandemic lockdown in Nigeria. These meetings has been holding online (via Skype, Zoom etc) in line with the social distancing rules and all implementing partners and other stakeholders have been partaking in the meetings to come out with substantial plans in managing the educational sector in such the trying times of the Covid-19 pandemic lockdown. Information on partner activities and reports from periodic meetings is been shared directly with the Federal Ministry of Education and SUBEB for considerations and implementations in which education data collection strives to use the official education management information system (EMIS) school codes to allow for seamless interaction with Federal Ministry of Education's data. Furthermore, also Education in Emergencies Working Group (EIEG) information Management within the Education Sector even at the critical time of the country.

According to UNICEF Nigeria, there are three (3) strategic selected objectives linked to the Covid-19 main consequence on school system: school closure: before, during and after (school reopening) the school closure.

a. Prevent spread and transmission of Coronavirus through and among learners, teachers, parents and School Based Management Committee (SBMC).
b. Mitigate/minimize the impact of school closure due to Covid-19 on learning and wellbeing of learners, teachers, parents and SBMC through alternative solutions.
c. Ensure effective, inclusive and safe return to quality learning for learners, teachers and SBMC.

Another control measure made by the federal government of Nigeria on the effect of Covid-19 pandemic on the education sector was the step to reopen schools to terminal students; the directive came from the president on 29th June, 2020 with the advice of Nigeria centre for Disease Control and Presidential task Force on Covid-19 after uninterrupted school closure since March 19th, 2020. With this, learners in primary six (6), Junior School three, and Senior Secondary three are to resume on the 6th of July, 2020 for adequate preparations for their terminal examinations, other classes and all tertiary institutions are to remain closed till further notice. All necessary precautions are to be put in place in various concerned schools, the ministries of Education and school authorities are to abide by the laid down rules while the temporary school activities in going. There is no doubt this decision will help the learners in the category to have time to prepare for their external examinations so as for them not to experience massive failure.

Recommendations

Hence, there is need for educational institutions to develop contingency strategies and methods that may be useful for emergency teaching and remote leaning in order to deliver quality Social Studies education during and post pandemic. It is based on these facts that the paper is recommending the following strategies:

i. The Social Studies Education teachers should be exposed to in-service training to learn how to use the Internet for improving quality Social Studies Education for sustainable development.
ii. The Social Studies Education teachers should be encouraged by making available internet services in their school environment.
iii. Adequate internet facilities and service should be provided for Social Studies Education teachers and students for easy internet accessibility.
iv. There should be curriculum review to promote and facilitate a compulsory internet-driven curriculum in Nigerian Schools.

Conclusion

The contemporary conception of sustainable development is only meaningful when every citizen participates in society's economic and social development. It is anticipated that quality Social Studies Education for sustainable development can be achieved using the Internet. The Internet offers variability of micro-electronic based devices that can bring about quality Social Studies Education for sustainable

development. Social Studies teachers' ability to effectively deploy the Internet for classroom use is pertinent to improve quality Social Studies Education for sustainable development. Social Studies Education will enhance the process and path of sustainable growth and development in Nigeria through the Internet. Internet application or usage for learning can stimulate and accelerate students' problem-solving, data processing, decision-making skills, and communication capabilities. The application of the Internet can bring about improved quality Social Studies Education for sustainable development in Nigeria in post-Covid-19.

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EXTENDING THE BENEFITS OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) TO THE MANAGEMENT OF ARABIC AND AJAMI MANUSCRIPTS PRIVATE REPOSITORIES IN NIGERIA

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Abstract
The study was conducted to reveal the benefits of information and communication technologies to the management of private repositories of Arabic and Ajami manuscripts in Nigeria. The study identified that the use of manual method of managing manuscripts in the repositories is not adequate to the management of the resources. The use of ICTs will ensure effective and efficient management of the repositories, and it will provide the means of easy access, retrieval and use of the manuscripts. The paper further discussed the concept of Arabic and Ajami manuscripts and subject coverage of the manuscripts as to their intellectual content. It also discussed the condition of present state of the Arabic and Ajami manuscripts' repositories in Nigeria, which was generally found in poor condition of management, the concept of information and communication technologies and their capabilities in managing many operations and activities in the Arabic and Ajami manuscripts repositories, the paper revealed some of the capabilities of the information and communication technologies to the management of information resources, and the benefits that could be derived from their use. The paper was concluded asserting that Arabic and Ajami manuscripts covered a wide range of fields of knowledge which can be used for teaching, learning and research. Suggestions were proffered for better management of the repositories in Nigeria, which include planning for the application of information and communication technologies by the owners of the Arabic and Ajami manuscripts repositories. The repositories building or locations dedicated for storage of the manuscripts should be free from all tendencies that may lead of leaking of water.

Keywords: Arabic, Ajami, Manuscripts, Repositories, Management, Information and Communication Technologies.

Introduction

The intent of this paper is to provide some basic use and applications of some components of information and communication technologies to the management of Arabic and Ajami manuscripts in the private repositories. Private repositories are those repositories that are belong to individuals who keep Arabic and Ajami manuscripts under their collections, these classes of people are described as the owners or custodians of the manuscripts. The owners/ custodians of Arabic and Ajami manuscripts are abound in cities, towns and villages of Northern Nigeria, and they could be found from different types of professions. Dogara (2021) the owners/ custodians could be found from different professionals, which include among others; Islamic teachers, imam leading Friday prayers, Islamic preachers, traditional rulers, judges, lectures, herbalists etc.

Repositories of whatever type are part and parcel of the conventional information system, an information system where information resources are acquired, processed, organized, stored and preserved for the purpose of access, retrieval and use. Generally, it has observed that the private repositories of Arabic and Ajami manuscripts are operating under manual system of operation through which they are facilitating their information services, which is no more adequate for the management of the manuscripts. The Arabic and Ajami manuscripts are made out of organic material, which is vulnerable to the attack by any agents of paper deterioration. Upon this, the researchers observed that in all the private repositories visited organization, storage and preservation of Arabic and Ajami manuscripts are done manually, where the manuscripts are stored inside boxes, cartons, boxes, sacks, baskets and mixed up together with other books of Islamic studies and Arabic. Mohammed (2017) laments the situation, by saying that ‘‘certainly the manual system for storage, preservation, access, and retrieval of information resource in the archives is no more adequate to meet up with information services for users in the 21st century. This was confirmed by Dogara (2021) where he found in Arabic and Ajami manuscripts private repositories, the manuscripts were mixed up with other Islamic and Arabic books, in most of the private repositories he visited in Zazzau Emirate. More so, some were found arranged on the floor over mats, some in the baskets, cartons and boxes e.tc.

It is worth noting that the number of Arabic and Ajami manuscripts is always on the increase, at the hands of their owners, most especially the Imams of Friday prayers, Islamic teachers, preachers and scholars etc. Users of these information resources comprised and constitute a lot of professionals, scholars and intellectuals from different fields of human endeavor. Conservation and preservation of the Arabic and Ajami manuscripts is very important for the present and future generations as they contain many important intellectual, historical, cultural and religious materials the knowledge is essential for the development of mankind and Nigerian national in specific. By these, the private repositories of Arabic and Ajami manuscripts should wake up towards exploiting the benefits of information and communication technologies for effective and efficient management of their collections for development of knowledge. The use of information and communication technologies will help a lot in managing the repositories and increase the lifespan of the manuscripts for future generations.

Concept of Arabic and Ajami manuscript

Arabic and Ajami manuscripts are pieces of handwritten information resources, in Arabic characters, and/or using Arabic characters to write or transcribe any language other than Arabic. In our context, the most popular languages that used Arabic characters or alphabets to write or transcribed thoughts as Ajami are: Hausa, Fulfulde, Kanuri, Nupe, and Yoruba. Ngom notes that (2017) the term “Ajami” comes from the Arabic word “ajam” which denoted improper Arabic or foreign from Arabic. The Arabic and Ajami are not different in their format and in content. Umar (2007) notes that Arabic and Ajami manuscripts were written out of a standard Arabic language rules which is clearly demonstrated by the text. And conclusive nature of its discourses guarantees the conceptual connectivity in the thematic presentation. While on the other hand presentation in Ajami texts have no any substantial differences in its grammatical presentation. This was as a result of matured teaching and learning style by the Islamic scholars which is established for the purpose of learning for and practice in Nigeria.

For that, Arabic and Ajami manuscripts are in two distinctive forms of writing, serving the same purpose However, these types of manuscripts recorded information which comprises records of information resources used as manuals for teaching and learning of Islamic sciences which considered as the literary tradition of their producing community. The Arabic and Ajami manuscripts comprise the records of events, didactic records, sermons, preaching, judgments proceeding in courts, family records, records of medicinal herbal, records of spiritual, magical, amulets talismanic and charms, official records in the emirate/ government, official and private correspondences, treatise and chronicles, etc. Umar (2010) submit that, Arabic and Ajami manuscripts are important materials that contain vital information about the historical and intellectual heritage of the communities that produced them.

On the production of the manuscripts and their subject coverage, Kaura (2017) reported that the Islamic scholars in both Kanem –Borno and Hausa were taught scholars in the area ranging from Arabic grammar, morphology, prosody, syntax, rhetoric to literature comprising of poetry, prose including Khutubat (sermons); Amsal (proverbs and wise sayings), Mashrihiyyah (tales/Fictions novels and folklore), khitaba (books) all these works were written in the form of manuscripts in both Arabic and Ajami according to the language used in the particular area, either Hausa, Fulfulde, Kanuri and Nupe. Kaura (2017) further narrated that the subject studied in Islamic science at that period of time in Hausa land and Kanem – Borno include ulum al Qur'an, ulum al Hadith, usul al-Fiqh and Fiqh, Ilm al –Tauhid and Islamic philosophy, Tafsir, Sirah and Tasawwuf (Sufism) among others.

Arabic and Ajami could also be found in form of prose and poetry discussing different subjects and themes on Islamic sciences and other fields of knowledge outside the scope of Islamic studies. These types of knowledge disciplines are highly appreciated by Islam as part of intellectualism which required every Muslim to acquire in whatever environment and circumstance she found himself as to complement his spiritual life as social being. With these types of knowledge man will know how to live in his society or community and become responsible as social and economic man that who can utilize his intellect for the benefit of himself, and contribute to the development his society. As such Bunza (2012) claimed that the Muslim scholars in West Africa produced a number of Arabic works related to medicine, security, philosophy, economic studies, political thought, geography, agriculture and architecture, town planning and public administration. These effort made by the scholars is for the benefit of the society and the community they came from, which is documented in form of manuscripts, and found to be relevant to the present societies.

Concept of Information and Communication Technology

The information and communication technology is described as versatile and powerful technologies, which can assist individual, groups and organizations in variety of ways in managing their information resources and communication activities. Information and communication technology comprised of hardware and software and also incorporate the network and communication structures, data structures and information together with control and access levels for different users, user interfaces and operating procedures at organizational and individual levels. Lucey (2005) asserts that ICTs can assist organization with it data storage, processing, flow of information in and around the organization in the control and management of the organization and establishing internal links between different parts of the organization and external links with business partners, customers (users) and suppliers. The information and communication technologies are having the ability to supplement, replace or extend the human function. Khan (2016) ICTs deals with the use of electronic computer and computer software to convert, to store, protect, process, transmit, access and retrieve information.

By these, the information and communication technologies are considered as facilitating, replacing and enhancing technologies for various activities and functions that are done traditionally or manually in organizations such as industries, factories, offices, libraries, archives, museums, houses etc. Lucey (2005) expatiates, that these three variables that described the capability of these technologies, as facilitating technologies can be seen from the use of Internet and World Wide Web (WWW) where they facilitate communication and accessing information remote information removing the constraints of time and distance. By the use of computers the information and communication technologies are replacing technologies by using robots in the factories, automating the library services and operations, using computers to compute inventories of records classes, automated databases, on-line public catalogue, etc. The information and communication technologies enhance the personal and organizational communication through the use of email, video conferencing, zoom facilities all these allowed humans to enhance their ability to communicate, disseminate, share, access, and analyze information without constraints of distance and time. These are some of the capabilities of the information and communication technology that are needed to be extended to the management of the private Arabic and Ajami manuscripts repositories in Nigeria.

State of Private Repositories of Arabic and Ajami manuscripts in Nigeria

In Nigeria, most especially in the northern region and some parts of the southern region Islamic education and it literacy was established through the effort of the Jihad of Shehu UsmanuDanfodiyo. After the Jihad and with the establishment of the caliphate, schools were established in all cities and towns, and with religion teachers who act as leaders. As such the governments of these cities were referred to as the Emirates who supported an important class of scholars who continue to preserve a powerful tradition of Islamic system of teaching and learning in the areas that were affected by the Jihad and beyond. This made it possible for the Islamization of the people of the areas and become literate, and as well schools and Islamic teaching and learning centres continue to flourish with students, teachers and scholars acquiring knowledge on various subjects and branches of knowledge of Islam. Dogara (2021) opines that these schools and centres graduated lots of scholars who generated lots of scholarly resources in the form of Arabic and Ajami manuscripts on the variety of subjects on Islam and other disciplines as it related to human endeavor.

Despite the educational value and the contribution made by the Arabic and Ajami manuscripts in almost all aspects of knowledge of human endeavor, the manuscripts are under serious management challenges at the hands of their owners and custodians. These challenges are associated with the physical nature of the manuscripts as they were made out of organic materials which required a lot of care for it management. The owners and custodians of the Arabic and Ajami manuscripts are dearth of awareness and the knowledge of modern technologies and their use in managing the repositories. It was found that there are the problems of in difference and nonchalant attitude among some of the owners and custodians of the Arabic and Ajami manuscripts, most especially from those possessed the manuscripts by inheritance from their parents (Dogara, 2021). This corroborates with the Batiste's report (2007) that I had the opportunity to formally survey the physical condition and the present state of some of the Arabic manuscript Ajami manuscripts holdings of public and private repositories in Nigeria, which include the Arewa House Centre for Historical Research, the National Archives in Kaduna, the Waziri Junaidu History and Culture Bureau and the Arabic documents in Kano State History and Culture Bureau. At the end of the survey, she concluded that, despite the historical significance of the Arabic collection in Northern Nigeria, they have been largely neglected.

At present, it was generally, observed that most of the private repositories that hold the collections of Arabic and Ajami manuscripts are stored and preserved in wooden and metal boxes, sacks, baskets, cartons and some laying on the floor using mat and wood plank as protective measure which is not enough. However, extending and exploiting the benefits of information and communication technologies to the management of the Arabic and Ajami manuscripts repositories will definitely extend the lifespan of the manuscripts and facilitate access, retrieval and of the resources.

Some Capabilities of Information and Communication Technologies in the Management of Arabic and Ajami manuscripts Repository

There are a number of areas and types of information and communication technologies have the power and capabilities which could be extended to the management of private Arabic and Ajami Manuscripts Repositories in Nigeria. For the purpose of this study and considering the general nature of private of Arabic and Ajami manuscripts and their owners/ custodians in Nigeria. The study is obliged to sensitize the owners of these repositories the important of the computer and few of some of hard ware's that their use is attached to use of computer. Computer is number one facility of the information and communication technology tools, which influenced numerous of activities in the realm of information management. However, in the first instance computer has the capabilities for effective and efficient management of the Arabic and Ajami manuscripts repositories and their resources.

Computer in Arabic and Ajami Manuscripts Repository Management

The benefits of information and communication technology could be derived into the management of Arabic and Ajami manuscripts repositories. With the use of computer the following activities could be made effectively and efficiently to the management of repositories:

(a) Computer could be used to compile and accessioned all the classes of manuscripts and their content inform of database and catalogue.
(b) Computer could be used to classify and arranged the manuscripts on their storage areas which could be by subject, author, and year etc.
(c) Computer could be used to control the flow of the manuscripts in the repositories through the use of created the database and catalogue.
(d) Computer could be used to keep track of with who and where a copy or copies of manuscripts are in case of loan or borrowing.
(e) The computer could be used to control the flow of manuscripts into the repositories.

These activities of handling and control of manuscripts in the repositories is part of what is known as automatic data processing, through these activities with the help of computer can lead to so many activities that would be of beneficial to the management of the repositories.

Conversion or Migration

Considering the value of the Arabic and Ajami manuscripts and it continuous relevance in the field of scholarship, their physical format which is made out of organic materials, the age of the resources, the poor condition of most of the repositories housing the resources, the level of handling the resources while use led to adversely mutilation of the manuscripts and subsequent destruction and lose of the resources forever. The benefits of information and communication technology through the use of electro- copying and photocopying technology are ever ready to solve the problems mentioned above by reproducing the original copies of the manuscripts electronically and en masse.

With the use of scanners the old and mutilated copies of the Arabic and Ajami manuscripts could converted into Optical Character Recognition (OCR) where the text can be stored into image or character encoded form where it can be reproduced either on a screen as read only or reproduced by printing to have more hard copies. At the same time it can be converted into Portable Data File (PDF) which can be transferred to other computers.

Storage and Preservation

As each and every manuscript is unique and most of the manuscripts of the private repositories due to their age and level of usage have become quite fragile, and while continue to be handling as other information resources definitely they will be adversely damage and destroyed. Using information and communication technologies will adequately assist in their storage and preservation for a long period of time.

Information storage is process and activity that involves storing information resources that are either printed or in electronic format and having the ability to easily locate and get access to it otherwise retrieval when needed. Conventionally and before the advent of information and communication technology, information storage was manually focused on the use of physical information storage objects and facilities. These include; shelves, archival boxes, file folders, file cabinet, more traditionally, in the case of other information resources like the manuscripts in tat hand of their owners are stored in boxes, raffia baskets etc. However, today as a result of information revolution and with the advent of information and communication technologies information is store digitally in/on databases, discs, and cloud etc. as a means of storage and preservation. The owners/ custodians of Arabic and Ajami Manuscripts can vigorously enhanced the process and activity in which they are storing and preserving their Arabic and Ajami manuscripts with the capabilities and benefits brought about by information and communication technology.

Preservation is the overall activities of ensuring the physical prevention of the information resources. Ismail, Affandy and Hamza (2018) preventive preservation consist of the range of direct and indirect actions undertaken on information resources aimed at preventing degradation of the resources, and

prolonging their life span. Some of these activities involve carrying out environmental checks, preparing and monitoring an emergency plan, and transferring to alternative media. Some of the ICT facilities that can be used to enhanced storage and preservation activities in the Arabic and Ajami Repository include: Hard Drive Disk, Floppy Disk, Compact Disk, Secure Digital Cards, Solid State Drives, Cloud Storage, etc.

Benefits of Information and Communication Technologies in the Management of Arabic and Ajami Manuscripts Repositories

The study hypothesized that if benefits of information and communication technologies extended to the Arabic and Ajami manuscripts repositories the following benefits will be definitely be achieved:

1. Protection of physical copies of the manuscripts will definitely be ensured from mutilation and lost.
2. It will improves awareness of the manuscripts, provides wider access, retrieval, collaboration and sharing among the community of the owners/custodians of the of Arabic and Ajami manuscript resources at local, national and international levels.
3. It will obscure the vast hidden treasures of knowledge, experiences, wisdom and events that are hidden and unknown to the world of academia, and
4. It will opens up new areas of inquiry for interpretation and development of new knowledge and scholarship.
5. It will assist in visibility of the repositories and what they contained, as well showcasing the contributions of Nigerians scholars to the development of world civilization and scholarship.
6. It will assist in ensuring the availability of the manuscripts to the future generations.
7. It will immortalize the labour and achievement of our past leaders and scholars in their effort to emancipation their communities from the darkness of ignorance to the light of knowledge and scholarship for development.

Conclusion

Based on the discourse of this study, it can be concluded that Arabic and Ajami manuscripts are intellectual heritage resources that covered a wide range of fields of knowledge which is efficient for teaching and learning, research and other scholarly activities. In a nutshell, these information resources are influential to societal development and communication of ideas, knowledge and innovations among the members of the society. The significance of these cultural and intellectual resources in the development of knowledge, made it very much imperative for their management as educational manuals for the present and future generations. While the information and communication technologies are indispensable tools which are impetus for the management of information resources and development of knowledge.

Suggestions on how to Manage Private Arabic and Ajami Manuscripts Repositories

1. There is the need for them to plan for the application of the technologies and the types of the technology that will directly and effectively satisfied their repository need.
2. The repository and or any location or building dedicated for the storage of Arabic and Ajami manuscripts most especially the roofing should be free from all tendency that may led to leaking of water, and
3. The basement, the floor of the building should be safe and free from flooding and dampness penetration into wall.
4. Air circulation in the repository should be maintain to avoid high humidity, while preventing dust or pest from attacking the information resources and the ICT facilities deployed into the repositories, such as the computers and other accessories of the computers.

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EDUCATIONAL INNOVATION, CREATIVITY AND RESEARCH AS TOOLS IN THE TRANSFORMATION OF TEACHING AND LEARNING PROCESS IN NIGERIA

BY

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Abstract
This study assessed the Educational Innovation, Creativity and Research as a Tool in the Transformation of Teaching and Learning Process in Nigeria. It is conceptual in nature, with the view to proffering solution against the demon attached to teaching and learning more especially in Nigeria. In this making, the paper is divided into the following sub-headings: definition of education, concept of educational innovation, relativity and innovation in education, concept of educational research, and concept of transformation of learning recommendations, conclusion and references in order to enhance higher quality of learning outcomes in Nigeria.

Keywords: Educational Innovation, Research Creativity, Transformation of Teaching and Learning.

Introduction

All over the world, it is generally believed that education is the backbone and powerful instrument for global development, teaching and learning needs effective innovations of large scale that can help produce the needed high-quality learning outcomes across the system. Innovation, research, creativity, transformation of teaching and learning are the key driving forces in social and economic development of any nation. The critical drivers of global economic trend today are know how creativity and transformation of teaching and learning, successful of educational development programmes in developing countries largely depend on the nature and extent of transformation of teaching and learning process. However, it is against this background that the study assessed the Educational Innovation, Creativity and Research as a tools in the Transformation of Teaching and Learning Process in Nigeria.

Definition of Education

The word 'Education' was derived from a latin word 'educare' meaning a breeding, a bringing up, a leading out, a rising up, a rearing and educate. According to Farrant (1980) Education can be defined as "the total process of human learning by which knowledge is imparted, faculties trained and skills developed. Education is the way toward preparing man to satisfy his basic needs by putting together all the resources to the furthest influence as a member of a given society. He also define education as the process of learning to care as a useful and acceptable member of the community to which one belongs. Education is also the act of gaining knowledge or the process of training and developing the knowledge, skills, mind character etc especially by formal schooling teaching and training. Education is therefore the process of facilitating learning or the acquisition of knowledge, skills, value; morals, beliefs, and habits education method include teaching, training, storytelling, discussion and directed research.

Fafunwa, (2004), defined education as a process by which one acquired knowledge, information and skills in order to be useful to oneself, family and the society at large. This presupposed that, education prepares

an individual for the future to be able to fulfill socio-economic and political obligations to oneself, family and the society at large. Adaralegbe, (1972)also defined education as a process which enables a person not only to be able to read and write, but also to be proficient in a given job or occupation to enable him fit himself for living in a society. This implies that education is the most powerful instrument of social change. It empowers an individual economically, socially and politically. Furthermore, Education also serves the function of developing an individual socially, psychologically to enable an individual perform basic responsibilities to himself, his family and the society at large Dare (2002) defined education as "development in knowledge, skills, ability or character by teaching, training, study or experience.

Nwadibia, (2005), also, define education as the total training acquired in reading, writing and experiences from exposures to persons and places including skills for ones betterment and positive adaptation to the environment one finds himself/herself. From above definitions education goes beyond ability to read and write alone, but can be expanded to include the acquisition of functional skills, moral identity, performance of responsibilities and ambition in the society. Fafunwa, (1974) defined education as what each generation gives to its younger ones, which makes them to develop attitudes, abilities, skills and other behaviours which are of positive value to the society in which they live. This position reflects the sociological perspective.

Therefore, education could be understood to mean the total development of the individual child, through acceptable methods and techniques, according to his abilities and interests, as well as the needs of the society, to take his rightful place and contribute adequately to the advancement of his society (Amaele, 2003). According to Oyekan (1994), functional education remains the veritable instrument and strength of positive change for sustainable human development. It is a sacred ingredient of development and a potent means of an enduring life. Education is the bedrock of economic development of any nation. Thus, education could be seen as means of individual and community development through the process of educational researches, innovation, creativity in the transformation of teaching and learning.

Concept of Educational Innovation

In education, innovation can appear as a new pedagogic theory, methodological approach, teaching technique, instructional tool, learning process or institutional structure that, when implemented, produces a significant change in teaching and learning, which leads to better student learning. So, innovations in education are intended to raise productivity and efficiency of learning and/or improve learning quality (Serdyukov, 2017). An innovation is an idea, practice or technology that is new to a decision-maker (Rogers 1995) and may be embodied in new and improved products and processes, new organizational forms, the application of existing technology to new fields, new resources, and new markets (Niosi *et al*., 1993). Creativity is thinking up new things. Innovation is doing new things (Levitt, 2002). To innovate is to look beyond what we are currently doing and develop a novel idea that helps us to do our job in a new way. The purpose of any invention, therefore, is to create something different from what we have been doing, be it in quality or quantity or both. To produce a considerable, transformative effect, the innovation must be put to work, which requires prompt diffusion and large-scale implementation. Innovation is generally understood as "the successful introduction of a new thing or method" (Brewer and Tierney, 2012). In essence, innovation seems to have two subcomponents. First, there is the idea or item which is novel to a particular individual or group and, second, there is the change which results from the adoption of the object or idea" (Evans, 1970). Thus, innovation requires three major steps: an idea, its implementation, and the outcome that results from the execution of the idea and produces a change (Serdyukov, 2017).

Innovation is perceived as a rupture or change in the assumptions and practices of actors and institutions, which are not random or deliberate but require intent and planning in order to improve situations that may be problematic (Macchiarola, 2009). Similarly, Rivas et al. (2017) add that these types of planned actions drive deep changes based on desire and passion to teach and learn; they also believe that educational innovation implies rupture or change in terms of traditional education's characteristics, for example, rote,

ritualistic and demonstrative learning. Innovation can be assessed by its novel, originality, and potential effect. As inventing is typically a time-consuming and cost-demanding experience, it is critical to calculate short-term and long-term expenses and consequences of an invention. They must demonstrate significant qualitative and/or quantitative benefits. As a psychologist Mihalyi Csikszentmihalyi writes, "human well-being hinges on two factors: the ability to increase creativity and the ability to develop ways to evaluate the impact of new creative ideas" (Csikszentmihalyi, 2013). In education, we can estimate the effect of innovation via learning outcomes or exam results, teacher formative and summative, formal and informal assessments, and student self-assessment. Innovation can also be computed using such factors as productivity (more learning outcomes in a given time), time efficiency (shorter time on studying the same material), or cost efficiency (less expense per student) data. Other evaluations can include the school academic data, college admissions and employment rate of school graduates, their work productivity and career growth. Assessing the effects of innvoation can also be based on the scale of implementation: singular/local/limited; multiple/spread/significant; and system-wide/total (Serdyukov, 2017).

Innovation is a third way replacing standard practices in teaching and learning with demonstrably better practices. Innovation is valued as a catalyst to growth. Other sectors have invested in the study of innovation: They have defined it, documented it, and attempted to spread it to obtain results that add value to desirable objectives (Mobbs, 2010). The process of adopting new innovations has been studied for almost a half a century, with the work of Everett M. Rogers (especially his ground breaking 1962 book *Diffusion of Innovations*) setting the stage for research on innovation. As defined by Rogers (1983), an innovation is "an idea, practice, or object that is perceived as new by an individual or another unit of adoption" (p. 11). An innovation provides an alternative solution to a problem or creates a novel solution to meet needs for an individual, group, or organization: The effectiveness of innovation, no matter at what level it is initiated in (Murphy, Redding, and Twyman, 2013).

Innovation can be directed toward progress in one, several, or all aspects of the educational system: theory and practice, curriculum, teaching and learning, policy, technology, institutions and administration, institutional culture, and teacher education. It can be applied in any aspect of education that can make a positive impact on learning and learners. In a similar way, educational innovation concerns all stakeholders: the learner, parents, teacher, educational administrators, researchers, and policy makers and requires their active involvement and support. When considering the learners, we think of studying cognitive processes taking place in the brain during learning – identifying and developing abilities, skills, and competencies. These include improving attitudes, dispositions, behaviors, motivation, self-assessment, self-efficacy, autonomy, as well as communication, collaboration, engagement, and learning productivity (Serdyukov, 2017).

Innovations enriching education can be homegrown (come from within the system) or be imported (originate from outside education). Examples of imported innovations that result from revolution, trend, or new idea include the information technology revolution, social media, medical developments (MRI), and cognitive psychology. Innovations can also be borrowed from superior international theories and practices (see Globalization of Education chapter). National reform may also be a route to innovation, for instance when a government decides to completely revamp the system via a national reform, or when an entire society embarks on a new road, as has happened recently in Singapore, South Korea, and Finland. Innovations may come as a result of inspiration, continuous creative mental activity, or "supply pushed" through the availability of new technological possibilities in production, or "demand led" based on market or societal needs (Brewer and Tierney, 2012).

To raise the quality of teaching, your must enhance teacher education, professional development, and life-long learning to include attitudes, dispositions, teaching style, motivation, skills, competencies, self-assessment, self-efficacy, creativity, responsibility, autonomy to teach, capacity to innovate, freedom from administrative pressure, best conditions of work, and public sustenance. As such, we expect educational

institutions to provide an optimal academic (Serdyukov, 2017). To identify an innovation in learning, must define the standard practice as well as the new way and determine that the new way is better. That is a high bar to clear. Validating the comparative advantage of a new practice with gold standard research is a desirable goal but one that lays a cold hand on the experimentation that fosters innovation. However, chasing after the next new thing with little evidence of its efficacy wastes valuable time and money and puts students at risk of missed opportunity to learn. A balance must be struck in highlighting the emerging practices that show promise as true innovation. A proposed innovation can be tested via formative, iterative evaluations prior to the needed validation with randomized, controlled trials (Layng, Stikeleather, & Twyman, 2006).

Innovation in any area or aspect can make a change in education in a variety of ways. Ultimately, however, innovations are about quality and productivity of learning (this does not mean we can forget about moral development, which prepares young people for life, work, and citizenship) (Camins, 2015). Every innovation must be tested for its potential efficiency. The roots of learning efficiency lie, however, not only in innovative technologies or teaching alone but even more in uncovering potential capacities for learning in our students, their intellectual, emotional, and psychological spheres. Yet, while innovations in economics, business, technology, and engineering are always connected to the output of the process, innovation in education does not necessarily lead to improving the output (i.e. students' readiness for future life and employment). Test results, degrees, and diplomas do not signify that a student is fully prepared for his or her career. Educational research is often disconnected from learning productivity and efficiency, school effectiveness, and quality output. Innovations in educational theories, textbooks, instructional tools, and teaching techniques do not always produce a desired change in the quality of teaching and learning. What, then, is the problem with our innovations? Why do not we get more concerned with learning productivity and efficiency? As an example, let us look at technology applications in teaching and learning (Serdyukov, 2017). Consequently, educational innovation if properly applicable could also serve as a powerful instrument for creativity and transformation of teaching and learning in Nigeria.

Creativity and Innovation in Education

The main difference between creativity and innovation is the focus. Creativity is about unleashing the potential of the mind to conceive new ideas (Marshall, 2013). Creativity is an ability to make or bring to existence something new, whether a new solution to a problem, a new method or device or a new artistic object or form (Olatoye, Akintunde & Ogunsanya, 2010). Pennick, (1992) described creativity as a process of becoming sensitive to problems, disharmonies, as well as identifying, searching for solutions, making guesses or formulation of hypothesis, and possibly modifying and restating them, and experimenting to find results and finally communicating the results. Runco, (2007), opines that creativity is a uniquely human trait that reflects our ability to adapt to changing circumstances, and our effective cognitive abilities to combine and improve upon idea to which we are exposed.

Besides that, creativity also produces actionable ideas, new concepts, new designs and new opportunities while innovation adds values to the new products (Olatoye, Akintunde & Ogunsanya, 2010). Adding to this point, Akinboye, 2003 said that without creativity, a person is not to access the fullness of information and resources available but is locked up in old habits, structures, patterns, concepts and perceptions. As the society becomes more complex, there is a gradual increase in the awareness that yesterday's methods do not effectively solve contemporary problems of the society Akinboye (1955) in Olatoye (2010) and this is why innovation and creativity are needed in nearly all the facets of the society. Creativity also refers to a psychological process, related to play, imagination, fantasy, feelings and emotions, meaning making and the use of symbols (Vygotsky, 1978; Joh-Steiner et al., 2010).

Creativity in curriculum is a carefully planned, thematic approach to teaching and learning designed to support student's natural curiosity and stimulate their creativity. The curriculum is students or learners centered and have an emphasis on skills. Besides that, creative teaching means "teaching using imaginative

approaches to make leaning more interesting, exciting and effective. This is a necessary part of all good teaching".

In education, it seems student creativity varies from country to country. Palaniappan (2009) compared creativity levels of Malaysian and American students. He reported that American students are significantly superior to their Malaysian counterparts in general creativity as well as in its components, namely fluency, flexibility, originally and elaboration (Olatoye, Akintunde & Ogunsanya, 2010). In addition, creative activities lead to innovation while creativity is the art of producing new ideas, approach or action, innovation is the process of both generating and applying such creative ideas and converting them into novel, useful and viable products, services and business practices. Besides that, according to Trilling and Faded (2009), to be an effective in this new paradigm requires a move from teacher instruction requires a move from teacher-directed to student – centered learning, from direct teacher instruction to interactive exchange with and among students, from teaching context knowledge to equipping students with the relevant skills, and from teaching basic contents to problem solving processes (Kivunja, C.2014).

According to Tulbure (2012), effective teaching requires flexibility, creativity and responsibility in order to provide an instructional environment able to respond to the learner's individual needs and the attainment of good academic achievement and educational outcomes (Fayombo, 2015).

Moreover, most students learn best when the style of presentation is aligned with their preferred leaning style and it is important for teacher to understand the students' styles. By doing this, teachers may gain insights into ways of making academic information more accessible to diverse groups of learners and an increased awareness of individual learning styles can help educators import new information in a memorable way (Brady, 2013 cited by Fatombo, 2015). Creativity is the creative flame of innovation and the creativity education has become the essence of future education. In nutshell, when challenged by global competition, innovation is an assurance to enhance competitiveness and creativity / innovation can be greatly cultivated through education (Je Lee, 2011).

In addition, Jan (2002), defined the role of creativity in educational reform as making an all-out effort to promote creativity education as the focus of educational reform in the future. Therefore, to enable students to be creative, teaching must be innovative and creative so as to improve the learner's innovative capability. Bruce, R (1989), leaning occurs in the interaction between the learners and the learning environment; when the appropriate strategies and skills are applied to technology use, making it a favorable tool for teaching , then better teaching effectiveness can be developed. Apart from that, Wu (2002), also pointed out that teaching innovation (during the teaching process) is when teachers use multi-faceted and likely teaching methods, and diversified and rich content to stimulate student' inner interest in learning, thus, developing positive student attitudes toward proactive learning and enhancing students' learning ability.

Hereby, teaching innovation and creativity can be separated into two secondary dimensions and their operational definitions can be explained as follows: (a) Innovation of teaching methods: means teachers using new and meaningful methods, for example, the application of cloud technology, conducting online education, or the use of an electronic whiteboard to solve teaching problems and being whiteboard to solve teaching problems and being. (b) Innovation of course designs: means to implement innovative course design that inspires students to integrate knowledge with a practical, flexible innovative ability, enabling them to make a more substantial contribution to the relevant areas in the future. According to Chen 2010), teaching innovation means teachers having creativity and showing vivid and likely teaching method to make students interested in learning, thus enhancing the teaching effectiveness (Je Lee, 2011).

There reasons for teaching innovation for students are: (1) Developing student capabilities for independent analysis, thinking and judgment; (2) Stimulating student interest and motivation for leaning; (3) Tapping

student potential in creativity and problem solving; and (4) Enhancing students' leaning ability. The purposes of teaching innovation for teachers are: (1) Enhancing teaching quality and effectiveness; (2) Having rich and diverse teaching content and methods; (3) Having a diversified student assessment; and (4) Achieving educational goals and ideas, (Wu, C.S.2002, Chiu, C.W.2000; Chang, C.C.2008). Hence, Education is an engine for growth and progress for any individual, community, society and nation in general; appropriate application of creativity and innovations in education will improve transformation of teaching and learning process in Nigeria.

Concept of Educational Research

Research is a process of establishing a theory, a hunch, or a viewpoint based on observation and experimentation. Many researchers have been conducted on existing theories such as Piaget's theory of cognitive development, Maslow's hierarchy of needs theory, and McClelland's achievement motivation theory. There are also researches conducted on new theories, for instance, the new theory that emotional intelligence is a construct distinct from cognitive abilities (Bar On, 2000). Leedy (1997) defines research as the systematic process of collecting and analyzing information (data) in order to increase our understanding of the phenomenon with which we are concerned or interested. Best and Khan (1995) define research as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles or theories, resulting in prediction and possibly ultimate control of events. Willian and Stephen (2005) identified 7 classification of educational research as: Basic and applied research; Qualitative and quantitative research; Experimental research; Quasi-experimental research; Non-experimental quantitative research; Historical research; and Ethnographic research. Research is simply the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. Research is a most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts (Osuala, 2005).

According to UNESCO, 2008 education research refers to all efforts by the state or by person or entities are and whose aim is to improve educational methods and educational activities. Educational research refers to a systematic attempt to gain a better understanding of the educational process, generally with a view in improving its efficiency. It is an application of scientific method to the study of educational problems. Educational Research can be defined as a systematic and scholarly application of the scientific methods, interpreted in its broadest sense, to the solution of educational problems; in fact, any systematic study designed to promote the development of education as a science can be considered educational research. The term educational research should also be limited to systematic studies designed to provide educators with more effective means of attaining worthwhile educational goals (Osuala, 2005). Therefore, the educational research serves as a powerful tool of educational innovation, creativity in the transformation of teaching and learning process.

Concept of Transformation of Learning

The 2030 Sustainable Development Goals (SDGs) are underpinned by a transformative vision. This vision is especially present in the SDG Target 4.7, where education is understood as a tool with transformative power to contribute towards sustainable development. The transformation of societies is crucial for ending poverty, protecting planet and improving the lives and prosperity of everyone (UN, 2015). However, to overcome current challenges such as the pandemic and different crises of sustainability (e.g. climate, humanitarian and inequalities), active individuals that are equipped with critical knowledge and skills are needed (Bridge, 2020).

Transformative education is not a new invention. It highlights the importance of active global citizenship and the need for transformation of our perceptions and interpretations of the world and mankind. The transformation of learning is the expansion of consciousness through which an individual can question themselves about their own feelings, beliefs, assumptions and perceptions on their purpose. Transformative

learning means moving beyond the reproduction of knowledge towards critical reflection. It aims to use education as a process for accelerating the transformation of our broad sets of predispositions about the world, which stem from our social and cultural environment and make sense of our everyday life (Mezirow, 1978; 1997; 2000). Transformative learning involves deep structural changes in our perception and interpretation of the world and us (O'Sullivan et al., 2002). Transformative learning encourages people to reflect on their perceptions, understandings and interpretations about themselves, others and the world in general (Taylor, 2000). For transformative learning to happen, critical reflection of mental perceptions of the world, one's own experiences, predispositions, assumptions, actions etc. and their change is required (Balsinger 2017).

Education should provide people with the knowledge, skills and values they need to take part in resolving the interconnected challenges of the 21st century (UN Secretary-General, 2012). It is no longer enough for education to provide basic literacy and numeracy; now it should equip individuals to be agents for sustainable change and to be able to tackle the global challenges. Recent conversations on the purpose of education raised the concept of 'regenerative education' where education is framed as an important tool to forge a path towards a more sustainableand just future (C.F. International Commission on the Futures of Education, 2021). Therefore, innovations, creativity and research need for transformation of community perceptions and interpretations of the Nigerian citizens.

Conclusion

Based on the discussions provided above, it is clear that Educational innovation, creativity and research serves as a tool in the transformation of teaching and learning process in Nigeria. This was because the innovations, research and creativity were found very vital tools in teaching and learning process. Therefore, the research concluded that innovations, research and creativity are tool in transformation of teaching and learning process more especially in Nigeria.

Recommendations

Based on the literature reviewed of the study, the following recommendations are presented for improving educational innovation, creativity and research as a tool in the transformation of teaching and learning process in Nigeria.

1. It is recommended that the government at all levels ranging from local government, State and Federal level should provide all necessary research materials, tools, facilities, and adequate fund needed in teaching and learning from primary to universities.
2. All educational stakeholders and philanthropist should be encouraged to engage in taking responsibilities of education by providing the necessary instructional materials to aid the smooth running of educational institutions.
3. Parents should provide the necessary support for their children in terms of rewarding their good character and dedication to learning and at the same time frowning at bad behaviours. This will further assist in curtailing bad influence in the society.

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UTILIZING EDUCATIONAL ROBOTICS AS AN EFFECTIVE INSTRUCTIONAL TOOL FOR ENHANCING SOCIAL STUDIES EDUCATION IN THE 21 CENTURY

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Abstract
Social studies education plays a crucial role in fostering critical thinking, cultural understanding, and active citizenship. This paper explores among others the roles of social studies, challenges of social studies, the concept of education Robotics, need for innovative educational technology, history and evolution of educational Robotics, types of educational Robotics, Benefits of Educational Robotics and integrating educational Robotics in social studies Curriculum. The paper recommended among others that the government shouldprovide comprehensive training and professional development opportunities for teachers to enhance their knowledge and skills in integrating robotics into social studies instruction. This can include workshops, courses, and collaborative learning communities where educators can share best practices and resources.

Keywords: Utilizing, Educational Robotics, Effective Instructional Tool, Enhancing, Social Studies Education, 21st Century.

Introduction

Traditional teaching methods often struggle to engage students and provide immersive learning experiences in social studies education. To overcome this challenge, educators are turning to educational robotics as an effective instructional tool. Educational robotics involves using robots and related technologies to facilitate active learning and enhance student engagement. (Joseph, 2017). By integrating robotics into social studies classrooms, educators can create dynamic learning environments that foster critical thinking and problem-solving skills. Students can explore social studies concepts in a hands-on and experiential manner, applying their knowledge to real-world scenarios. Educational robotics also promotes interdisciplinary connections with (STEM) subjects (Science, Technology, Engineering, and Mathematics. (Ceceri, 2012). It is an interdisciplinary approach to education that integrates these four disciplines to provide students with a holistic understanding of the interconnectedness and practical applications of these subjects, prepares students for the 21st-century workforce, and nurtures collaboration and teamwork. However, challenges such as access to technology, teacher professional development, curriculum integration, and ethical considerations need to be addressed. By overcoming these challenges, educational robotics can revolutionize social studies education and empower students to become active learners and global citizens in the modern era.(Joseph, 2017).

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Background

The background of the study revolves around the incorporation of educational robotics as an instructional tool to enhance social studies education in the 21st century. Traditional teaching methods in social studies often struggle to engage students and provide experiences, leading to a need for innovative approaches. Educational robotics offers a unique opportunity to bridge this gap by providing interactive, collaborative, and interdisciplinary learning experiences. (Suen, 2015).

The integration of educational robotics in social studies education brings several benefits. It enhances student engagement by providing tangible and interactive learning experiences. Students can actively manipulate robots, create programs, and observe real-world applications, leading to a deeper understanding of social studies concepts and issues. Educational robotics also promotes interdisciplinary learning, allowing students to explore various subjects related to social studies.(Joseph, 2017).

Moreover, educational robotics cultivates essential 21st-century skills such as critical thinking, creativity, communication, collaboration, and technological literacy. These skills are vital for students to thrive in the digital era and become informed and active global citizens. (Buck 2019).

Despite its potential benefits, the integration of educational robotics in social studies education is still in its early stages, and there is a need for comprehensive research and practical implementation strategies. This study aims to address this gap by exploring how educational robotics can effectively enhance social studies education. By examining the benefits, practical strategies, and potential challenges of integrating robotics into social studies instruction, the study seeks to contribute to the advancement of educational practices in this field.

Problem Statement

The 21st century today travels in digital era. However, Traditional teaching methods in social studies education often struggle to effectively engage students and provide learning experiences. This limitation can hinder students' understanding of social studies concepts and their ability to develop critical thinking, collaboration, and problem-solving skills. Moreover, in the 21st century, there is a growing need to prepare students to navigate a complex and interconnected world, where technological literacy and interdisciplinary knowledge are crucial.

The lack of innovative instructional approaches that effectively enhance social studies education poses a significant challenge. Without engaging and interactive learning experiences, students may become disinterested, leading to a lack of motivation and limited knowledge retention. (Portsmore, 2018). Additionally, the traditional approach may fail to adequately equip students with the 21st-century skills necessary for active citizenship and meaningful participation in a global society.

To address these challenges, there is a need to explore and evaluate the potential of educational robotics as an instructional tool in social studies education. By incorporating educational robotics, it may be possible to enhance student engagement, facilitate interdisciplinary learning, and develop critical thinking and collaboration skills. However, there is a gap in comprehensive research and practical implementation strategies that specifically focus on integrating robotics into social studies instruction.

Therefore, the problem addressed by this study is the limited understanding of how educational robotics can be effectively utilized as an instructional tool to enhance social studies education in the 21st century. By investigating the benefits, practical strategies, and potential challenges of integrating robotics into social studies instruction, this study aims to provide insights and guidance for educators, policymakers, and researchers in improving educational practices and enhancing student learning outcomes in social studies education.

Objectives

The objectives of the paper are to:

- Explore the potential benefits of integrating educational robotics into social studies education.
- Identify practical implementation strategies for incorporating educational robotics in social studies instruction.
- Examine the impact of educational robotics on student engagement, achievement, and the development of 21st-century skills.
- Discuss the role of educational robotics in enhancing critical thinking, collaboration, and problem-solving skills in the context of social studies education.
- Identify and address potential challenges and considerations in implementing educational robotics in social studies classrooms.
- Provide recommendations for educators, policymakers, and researchers to effectively utilize educational robotics as an instructional tool for enhancing social studies education in the 21st century.

Scope of the Paper

The paper focuses on utilizing educational robotics as an instructional tool to enhance social studies education in the 21st century. It explores the benefits, implementation strategies, and impact of educational robotics on student engagement, achievement, and the development of 21st-century skills. The scope includes interdisciplinary integration, fostering critical thinking, cultural understanding, and active citizenship. Additionally, the paper addresses challenges such as teacher professional development, access and equity, cost and sustainability, and ethical considerations. Overall, the paper provides a comprehensive examination of the potential and implications of incorporating educational robotics in social studies education.

Role of Social Studies Education

Social studies education plays a crucial role in preparing students for active participation in society. It involves the study of various social sciences and aims to develop students' understanding of the human experience, promote civic literacy, foster critical thinking skills, and cultivate cultural competence.(Heileman, 2022) By studying history, students gain insights into the past, enabling them to comprehend the present and make informed decisions for the future. Social studies education also nurtures civic literacy, empowering students to understand government structures, democratic processes, and their role as engaged citizens. (Graves, 2016). Critical thinking is fostered through the analysis and evaluation of information from diverse sources, while cultural competence is cultivated through the study of different cultures and perspectives. In total, social studies education equips students with the knowledge, skills, and attitudes necessary to become informed, engaged, and responsible members of society.(Heileman, 2022).

Challenges in Social Studies Instruction

Social studies instruction faces several challenges that educators must navigate to ensure effective teaching and learning. These challenges include:

- **Overloaded Curriculum:** Social studies encompass a broad range of topics, from history and geography to civics and economics. The extensive curriculum can result in limited instructional time for each subject, making it challenging for teachers to provide an in-depth exploration of concepts.
- **Controversial Topics:** Social studies often involve discussions on sensitive and controversial issues, such as politics, religion, and social justice. Addressing these topics in the classroom requires skillful facilitation to ensure respectful dialogue and maintain a balanced perspective.
- **Lack of Relevance:** Students may struggle to see the relevance of social studies to their daily lives, leading to disengagement and apathy. Educators need to bridge the gap between abstract concepts and real-world applications to make social studies meaningful and relatable.

- **Limited Access to Primary Sources:** Access to authentic primary sources, such as historical documents, artifacts, and first-hand accounts, can be limited, hindering the ability to provide students with first-hand experiences and authentic learning opportunities.
- **Inadequate Resources and Materials:** The availability of up-to-date and high-quality instructional resources, including textbooks, technology tools, and supplementary materials, can vary, making it challenging for educators to provide diverse and engaging learning experiences.
- **Teacher Preparedness:** Some educators may lack the necessary training, content knowledge, or instructional strategies to effectively teach social studies. Professional development opportunities and ongoing support are crucial for teachers to stay updated and equipped with effective instructional approaches.
- **Addressing Diverse Learner Needs:** Social studies classrooms are diverse, encompassing students with varied backgrounds, abilities, and learning styles. Teachers must employ inclusive instructional strategies and differentiate instruction to meet the needs of all learners.
- **Limited Technology Integration:** Although technology has the potential to enhance social studies instruction, limited access to technology resources and insufficient training on its effective integration can hinder its full utilization.(Joseph, 2017).

By recognizing and addressing these challenges, educators can work towards creating engaging, relevant, and inclusive social studies learning environments that equip students with the necessary knowledge, skills, and attitudes for active citizenship and global understanding.

Need for Innovative Instructional Approaches

Innovative instructional approaches in social studies education are essential to meet the evolving needs of students in the 21st century. These approaches address the requirements for engaging and relevant learning experiences, the development of 21st-century skills, authentic and meaningful learning differentiation for diverse learners, fostering critical thinking and global competence, and preparing students for technological advancements. By incorporating innovative methods such as educational robotics, simulations, project-based learning, and technology integration, educators can create dynamic and transformative learning environments that promote student engagement, critical thinking, cultural understanding, and global citizenship. These approaches provide opportunities for hands-on experiences, real-world connections, and the development of essential skills necessary for success in the modern world. (Ceceri, 2012).

Educational Robotics: An Overview

Definition and Concepts of Educational Robotics

Educational robotics refers to the use of robots as a tool for teaching and learning in educational settings. It involves integrating robotic technology into the curriculum to engage students in hands-on, interactive, and experiential learning experiences.(Suen, 2015).

The following concepts are fundamental to understanding educational robotics:

1. **Robotics:** Robotics refers to the design, construction, and operation of robots. Robots are programmable machines that can carry out tasks autonomously or with human input. They can range from simple, programmable toys to complex, sophisticated machines capable of performing intricate functions.
2. **Hands-on Learning:** Educational robotics promotes active and hands-on learning experiences for students. It allows them to physically interact with robots, program them, and observe the outcomes of their actions. This hands-on approach fosters engagement, problem-solving skills, and a deeper understanding of concepts.
3. **Interdisciplinary Integration:** Educational robotics offers opportunities for interdisciplinary integration, combining knowledge and skills from various subjects such as science, technology, engineering, mathematics (STEM), and even social studies, language arts, and creative arts. It enables students to apply their learning across multiple disciplines, promoting a holistic understanding of concepts.

4. **Problem-solving and Critical Thinking:** Educational robotics fosters problem-solving and critical thinking skills. Students encounter challenges and obstacles while working with robots, requiring them to analyze problems, think creatively, and find innovative solutions. This process develops their ability to think critically and apply logical reasoning.
5. **Technological Literacy:** Educational robotics contributes to the development of technological literacy. Students gain exposure to robotic technology, learn how robots function, and understand their applications in various fields. This familiarity with technology enhances their digital literacy and prepares them for a technology-driven society.(Suen, 2015)

By incorporating educational robotics into the classroom, educators provide students with an engaging and interactive learning experience that promotes hands-on exploration, interdisciplinary integration, computational thinking, collaboration, problem-solving, critical thinking, and technological literacy.

History and Evolution of Educational Robotics

The history and evolution of educational robotics can be traced back several decades, starting with early attempts to use robots as educational tools. This is the summary of the key milestones and developments:

1. **Early Beginnings (1960s-1970s):** In the 1960s, researchers began exploring the use of robots in educational contexts. Seymour Papert, a prominent figure in the field of educational technology, developed the concept of "constructionism" and introduced the programming language Logo, which allowed children to control a small robot called the "Turtle." This marked the early integration of robotics and programming into education.
2. **Logo and Robotics (1980s-1990s):** In the 1980s and 1990s, the Logo programming language gained popularity in schools, and programmable robots, such as the LEGO Logo Turtle and the MIT Handy Board, were used to engage students in programming and problem-solving activities. This era witnessed the emergence of robotics competitions, such as the FIRST Robotics Competition, which provided students with hands-on experiences in building and programming robots.
3. **Expansion of Educational Robotics (2000s**): The 2000s saw a significant expansion of educational robotics. LEGO introduced the LEGO Mindstorms robotics kits, which allowed students to build and program their robots. This affordable and user-friendly platform sparked widespread interest and adoption of educational robotics in schools and educational programs worldwide.
4. **Advancements in Robotics Platforms (2010s):** In the 2010s, robotics platforms became more sophisticated and diverse. New platforms, such as VEX Robotics which has to do with engineering automobiles, etc. and Arduino-based systems which have to do with electronic mechanics and software, offered expanded possibilities for building and programming robots. The integration of sensors, actuators, and programming interfaces enabled more complex robot behaviours and increased customization options.
5. **Integration of STEM Education (Present):** Educational robotics has become closely linked with STEM (Science, Technology, Engineering, and Mathematics) education initiatives. Robotics serves as a means to integrate these disciplines, promoting interdisciplinary learning, problem-solving skills, and creativity. It provides a hands-on approach to engage students in STEM concepts and fosters the development of 21st-century skills.
6. **Emerging Trends:** Recent years have seen the emergence of new trends in educational robotics. These include the use of humanoid robots for social interaction and emotional learning, the incorporation of artificial intelligence and machine learning algorithms in robot programming, and the integration of virtual and augmented reality technologies to enhance robot-user interaction. (Siciliano, 2010).

Types of Educational Robots

There are various types of educational robots designed for different learning purposes and age groups. Here are some common types of educational robots:

- **Programmable Robots:** These robots allow students to program their behaviour using coding languages or visual programming interfaces. Examples include a child plastic construction tools (LEGO,) Mind storms, Bee-Bots, Dash and Dot robots. Programmable robots provide hands-on experiences in coding, problem-solving, and logical thinking.
- **Remote-Controlled Robots**: These robots are operated by remote control and allow students to explore basic robot control and navigation. They are often used for introductory robotics lessons and can be found in toy robotic kits or educational robotics platforms.
- **Humanoid Robots:** Humanoid robots have a humanoid appearance and mimic human movements. They are designed to interact with users, engage in social interactions, and demonstrate human-like behaviour. Humanoid robots, such as Autonomous Programmable Humanoid Robot (NAO) and Semi-human Robot (Pepper), are used for teaching subjects like communication skills, social interaction, and programming.
- **Modular Robotics:** Modular robots consist of interchangeable modules that can be assembled in various configurations. Students can create and modify robot structures, allowing for creativity and experimentation. Examples include Cubelets and MOSS Robotics.
- **Robotic Kits:** Robotic kits provide a combination of components, sensors, and programming interfaces to build and customize robots. They often include step-by-step instructions and are suitable for both beginners and advanced learners. Examples include LEGO Mindstorms, VEX Robotics, and Arduino-based kits.
- **Virtual Robots:** Virtual robots exist in simulated environments and can be programmed and interacted with through software interfaces. They provide a cost-effective and accessible option for learning robotics concepts and programming. Examples include virtual robotics platforms like Webots (sensor movement) and Robot Block
- **Autonomous Robots:** Autonomous robots are capable of making decisions and performing tasks without human intervention. They often utilize sensors, machine learning, and artificial intelligence algorithms. These robots can be used for advanced programming and exploring topics like computer vision and autonomous navigation.
- **Drone Robots:** Drone robots are unmanned aerial vehicles (UAVs) that can be programmed and controlled. They provide opportunities for learning about aerial robotics, flight control, and aerial photography. Examples include educational drone platforms like Parrot AR.Drone and DJI Tello.(Ceceri, 2012).

Benefits of Educational Robotics

Educational robotics offers a range of benefits for students and educators. It provides hands-on and experiential learning experiences, promotes the development of STEM skills, fosters collaboration and teamwork, encourages creativity and innovation, connects classroom learning to real-world applications, accommodates diverse learners, develops problem-solving and critical thinking skills, prepares students for future careers, enhances engagement and motivation, and cultivates technological literacy. Through educational robotics, students engage in active and meaningful learning experiences that promote skill development, foster a love for STEM, and prepare them for success in a technology-driven world. (Suen, 2015).

Integrating Educational Robotics in Social Studies Education

Curriculum Alignment and Robotics

Curriculum alignment is essential for integrating robotics into the curriculum effectively. By aligning robotics activities with curriculum standards, learning objectives, and subject areas, educators can ensure that students engage in relevant and contextual learning experiences. It facilitates the seamless integration of robotics into the existing curriculum, promotes interdisciplinary connections, and supports a coherent progression of learning. Curriculum alignment also enables effective assessment and evaluation of students' learning outcomes and provides support for teachers in planning and implementing robotics activities. (Martines, 2013).

Therefore, aligning robotics with the curriculum maximizes the educational benefits of robotics and enhances student learning outcomes**.**

Examples of Social Studies Topics and Robotics Integration

Integrating robotics into social studies education offers opportunities to enhance learning and engagement. (Gordon, 2016) Examples of social studies topics and how they can be integrated with robotics:

1. **Historical Figures and Events:** Students can use robotics to create interactive presentations or re-enactments of historical figures or events. They can build robotic models that represent important figures or construct robots that recreate significant historical moments. This hands-on approach allows students to deepen their understanding of history and make connections to the past.
2. **Geographic Explorations**: Students can use robots to simulate geographic explorations. They can program robots to navigate through maps, simulate expeditions, and collect data about different regions or landmarks. This integration combines geography, mapping skills, and technology, providing a dynamic and interactive learning experience.
3. **Cultural Studies:** Robotics can be used to explore different cultures and traditions. Students can design robots that showcase cultural artifacts, traditional dances, or customs. This integration helps students appreciate and understand cultural diversity while developing programming and design skills.
4. **Environmental Issues**: Robotics can be utilized to address environmental issues in social studies. Students can design robots that monitor pollution levels, clean up simulated environmental disasters, or study the impact of human activities on ecosystems. This integration promotes environmental awareness and engages students in problem-solving related to sustainability.
5. **Government and Civic Engagement:** Students can use robotics to explore concepts of government and civic engagement. They can design robots that simulate democratic processes, such as voting or debating, or create robotic models of government institutions. This integration allows students to understand the functioning of democracy and the importance of civic participation.
6. **Economics and Trade:** Robotics can be integrated into lessons on economics and trade. Students can design robots that simulate supply chains, automate production processes, or analyze economic data. This integration helps students understand economic concepts and the impact of technology on industries and trade. (Joseph, 2017).

Using Robots as an Alternative in Teaching Social Studies

Using robots as an alternative in teaching social studies offers several advantages and benefits that can enhance the learning experience for students:

1. **Teacher Support**: While robots can enhance learning, they do not replace teachers but rather complement their role.(Aylett, 2015) Teachers can focus on facilitating discussions, guiding activities, and providing context while the robot delivers content.
2. **Role-playing and Simulations**: Robots can act as historical figures or cultural representatives, participating in role-playing activities and simulations. This immersive approach helps students understand historical contexts and cultural dynamics.(Eguchi, 2014).
3. **Engagement and Interest**: Robots are inherently interesting to students due to their uniqueness and interactive nature. Integrating robots into social studies lessons can capture students' attention and stimulate their curiosity, making the learning process more engaging.
4. **Interactive Learning**: Robots can engage in conversations, quizzes, and activities with students. This interactivity fosters active learning, allowing students to ask questions, participate in discussions, and receive immediate feedback.
5. **Personalized Learning**: Some robots can adapt their interactions based on student responses, providing personalized learning experiences. This customization caters to individual learning styles and paces, enhancing understanding and retention.

6. **Consistent and Patient**: Robots can deliver lessons consistently and patiently, ensuring that all students receive the same level of attention and information. They can repeat explanations and materials as needed, promoting understanding.
7. **Overcoming Language Barriers**: Some robots can communicate in multiple languages. This feature is valuable in teaching about cultures and regions where different languages are spoken, enabling students to explore diverse perspectives.
8. **Real-world Application**: Learning with robots can expose students to technology they might encounter in various professional fields, such as robotics, programming, and education, providing practical skills.(Eguchi, 2014).

Types of Robot to be used in Teaching Social Studies

There are various types of robots that can be used to teach social studies.

1. **Humanoid Robots**:

- **Nao**: is an autonomous programmable humanoid robot that can engage in conversations, display emotions, and perform actions. It can be programmed to present historical facts, cultural information, and engage in discussions about social studies topics.(Belpeame, 2012).



(https://www.google.com/search?q=NAO&aqs=chrome.5)

- **Pepper**: Pepper is another humanoid robot that can interact with students, provide information, and even dance. (Kennedy, 2016). Its interactive features can be used to present social studies content in an engaging manner.



(https://www.google.com/search?q=Pepper&aqs=chrome.5)

2. **Educational Robots**:

- **RoboKind Milo**: Milo is designed to help teach social and emotional skills to students, making it useful for teaching cultural understanding, empathy, and historical perspectives.



(https://www.google.com/search?q=Robokind milo&aqs=chrome.5)

- **Aldebaran's ASK NAO**: This robot is specifically designed for education and can engage students in interactive lessons related to various subjects, including social studies.



(https://www.google.com/search?q=Alderans Nao&aqs=chrome.5)

3. **Coding and Robotics Kits**:

- **LEGO Mindstorms**: These kits allow students to build and program their own robots. They can create robots that represent historical events, cultures, or concepts and program them to interact with the students.



(https://www.google.com/search?q=Mindstoms&aqs=chrome.5)

- **Sphero**: Sphero offers programmable robotic balls that can be used for educational purposes. Students can program the robot to simulate geographical journeys, cultural events, or historical scenarios.



(https://www.google.com/search?q=sphero&aqs=chrome.5)

4. **Virtual Robots and Avatars**:

- **Virtual Chatbots**: Develop a virtual chatbot that acts as a historical figure, guiding students through discussions and activities related to social studies topics.



(https://www.google.com/search?q=Virtual Chatbots&aqs=chrome.5)

- **Virtual Reality (VR) and Augmented Reality (AR)**: Use VR or AR experiences to immerse students in historical or cultural environments. Virtual robots or avatars within these experiences can provide information and guidance.



(https://www.google.com/search?q=o&aqsVr&Ar=chrome.5)

5. **DIY Robotic Platforms**:

- **Raspberry Pi or Arduino-based Robots**: For educators with coding and robotics skills, creating custom robots using platforms like Raspberry Pi or Arduino can be a creative way to teach social studies. These robots can be programmed to display historical information, quiz students, or simulate cultural experiences.



(https://www.google.com/search?q=Raspberry Pi&aqs=chrome.5)

However, the choice of robot will depend on your specific teaching goals, budget, and technological resources and also consider the age group of your students and the level of interactivity you want to achieve. (Park, 2011). Whichever robot you choose, ensure that it effectively supports the learning objectives and engages students in a meaningful way.

Enhancing Student Engagement and Achievement

Active Learning through Robotics

Active learning through robotics engages students in hands-on activities that require them to actively participate, problem-solve, and construct knowledge. Students work directly with robots, manipulating components, programming behaviour, and observing responses, which foster deep understanding. (Vinciarelli, 2009) Robotics promotes problem-solving, critical thinking, collaboration, and communication skills as students tackle challenges, work in teams, and articulate their ideas. It allows for personalized learning and differentiation, supports reflection and iterative improvement, and connects learning to real-world applications. Robotics activities also provide opportunities for formative assessment, enabling educators to observe students' understanding and provide timely feedback. (Portsmore, 2018). Above all, active learning through robotics empowers students to be active learners and develop essential skills for the 21st century.

Collaboration and Teamwork

Educational robotics promotes collaboration and teamwork among students. Through group projects, effective communication, task delegation, conflict resolution, shared problem-solving, and reflection, students develop essential collaboration skills. They learn to work together, share ideas, and appreciate the strengths of their teammates. Collaborative robotics projects teach students effective communication, task management, and conflict resolution. They also foster critical thinking, innovation, and a sense of achievement. (Buck, 2019) Therefore, educational robotics provides a supportive environment for students to develop collaboration and teamwork skills that are valuable in various academic and real-life contexts.

Inquiry-Based Learning and Problem-Solving Skills

Educational robotics fosters inquiry-based learning and develops problem-solving skills in students.(Alimisis, 2018) Through robotics projects, students engage in active investigation, questioning, and exploration. They learn to identify and define problems, analyse situations, and ask critical questions. Students develop problem-solving skills through the design and iterative process, where they brainstorm ideas, evaluate solutions, and make improvements based on testing and feedback. Programming robots enhances their algorithmic thinking and problem-solving abilities. Trial-and-error learning allows students to learn from failures and refine their problem-solving approaches. Collaboration and teamwork in robotics projects further enhance critical thinking and interpersonal skills. Real-world applications of robotics provide practical contexts for applying problem-solving skills. (Correl, 2016) We can say that educational robotics empowers students to inquire, think critically, and solve problems effectively.

Challenges and Considerations in Implementing Educational Robotics

Teacher Professional Development

Teacher professional development plays a crucial role in enhancing the knowledge, skills, and competencies of educators. It involves continuous learning, improved instructional strategies, collaboration, specialization, and reflective practice. Professional development programs focus on technology integration, differentiation, inclusive education, assessment, and leadership development. By participating in professional development activities, teachers stay updated, enhance their teaching methods, build a supportive network, and promote student success. It is an on-going process that fosters lifelong learning and contributes to the professional growth and well-being of educators.(Portsmore, 2018).

Cost and Sustainability

Implementing educational robotics programs requires considering the cost and sustainability factors. Schools and districts need to allocate resources for the initial investment in robotics equipment and teacher training. On-going expenses for maintenance and replacement should also be considered. Developing a sustainability plan that includes securing funding, establishing partnerships and integrating robotics into the curriculum is crucial. Scalability and reliability allow for wider implementation and distribution of costs. Engaging the community and conducting evaluations help sustain the program by attracting support and

demonstrating its impact. By addressing these aspects, educational robotics programs can be implemented in a cost-effective and sustainable manner, ensuring long-term success and benefits for students.

Ethical and Social Implications

The implementation of educational robotics programs necessitates careful consideration of ethical and social implications. These include protecting student privacy and data, promoting equity and access, fostering digital citizenship and online safety, addressing concerns about automation and job displacement, encouraging ethical use of robotics technologies, facilitating responsible human-robot interaction, recognizing cultural and social perspectives, and promoting ethical decision-making and programming. By addressing these implications, educational robotics programs can create a safe and inclusive learning environment that encourages ethical awareness, social responsibility, and critical thinking among students.(Ceceri, 2012).

Emerging Technologies in Educational Robotics

Emerging technologies are revolutionizing the field of educational robotics. Artificial Intelligence (AI), Internet of Things (IOT), Augmented Reality (AR), Virtual Reality (VR), cloud computing, robotics simulation, bio-inspired robotics, humanoid robotics, wearable robotics, swarm robotics, and ethical robotics are some of the key technologies making significant contributions. These technologies offer immersive and interactive experiences in educational robotics. Students can visualize and interact with virtual robots or simulate real-world scenarios, providing a more engaging and realistic learning environment. (Joseph, 2017).

Long-Term Impact and Sustainability

The long-term impact and sustainability of educational robotics programs depend on several key factors. These include the achievement of desired student learning outcomes, continuous teacher professional development, integration of robotics into the curriculum, partnerships and community engagement, scalability and replicability, program evaluation and iteration, funding and resource allocation, and supportive educational policies. By focusing on these aspects, educational robotics programs can ensure sustained effectiveness, expand their reach, foster collaboration, adapt to changing needs, secure necessary resources, and create conducive environment for long-term success. (Graves, 2016).

Conclusion

In conclusion, educational robotics offers significant potential for enhancing social studies education in the 21st century. This paper has explored various aspects of using robotics as an instructional tool, including its background, challenges, benefits, and the need for innovative approaches. It has emphasized the importance of aligning robotics with the curriculum, promoting active learning, collaboration, and problem-solving skills, and supporting teacher professional development.

The paper has also discussed the ethical and social implications of educational robotics, highlighting the importance of responsible use and addressing concerns such as privacy, equity, and cultural sensitivity. Additionally, it has explored emerging technologies in the field and the long-term impact and sustainability considerations for successful implementation.

In summary, by integrating educational robotics into social studies education, educators can create engaging and interactive learning environments that prepare students for the complexities of the modern world. Through collaboration, critical thinking, and the development of essential skills, students can become active learners and responsible global citizens. It is crucial for educators, stakeholders, and policymakers to embrace the potential of educational robotics and work together to ensure its successful implementation and long-term impact on social studies education.

Recommendations for Future Implementation

Based on the findings and discussions presented in the paper, the following recommendations can be made for future implementation of educational robotics in social studies education:

1. **Teacher Training and Professional Development:** Provide comprehensive training and professional development opportunities for teachers to enhance their knowledge and skills in integrating robotics into social studies instruction. This can include workshops, courses, and collaborative learning communities where educators can share best practices and resources.
2. **Curriculum Development:** Develop curriculum materials and resources that explicitly integrate educational robotics into social studies topics. These materials should align with educational standards and provide clear guidelines for incorporating robotics activities, projects, and assessments into existing social studies units.
3. **Collaborative Partnerships:** Foster partnerships with local organizations, universities, and industry professionals to provide support, expertise, and resources for implementing educational robotics programs. Collaborative partnerships can also facilitate access to funding opportunities and promote real-world connections for students.
4. **Accessibility and Equity**: Ensure that educational robotics programs are accessible to all students, regardless of their socio-economic background, gender, or ability. Take steps to address potential barriers, such as providing financial assistance, promoting diversity and inclusivity in program design, and offering differentiated instruction to meet the needs of diverse learners.
5. **Evaluation and Research:** Conduct on-going evaluation and research to assess the effectiveness and impact of educational robotics programs in social studies education. This can involve collecting data on student learning outcomes, teacher experiences, and program sustainability. Use this information to inform program improvements and evidence-based decision-making.
6. **Collaboration and Interdisciplinary Integration:** Encourage interdisciplinary collaboration by integrating robotics activities with other subjects, such as language arts, mathematics, and science. Promote cross-curricular projects and initiatives that foster a holistic understanding of social studies topics and promote multidisciplinary skills development.
7. **Ethical Considerations:** Address ethical concerns and promote responsible use of robotics technologies in social studies education. Provide guidelines and resources for ensuring student privacy, data security, and ethical decision-making. Foster discussions and critical thinking around the social and cultural implications of robotics in society.
8. **Funding and Resources:** Advocate for adequate funding and resources to support the implementation and sustainability of educational robotics programs. Seek grants, sponsorships, and partnerships to secure financial support for equipment, professional development, and program expansion.
9. **Dissemination and Knowledge Sharing:** Share success stories, best practices, and resources through conferences, journals, online platforms, and professional networks. Promote knowledge sharing among educators, researchers, and policymakers to advance the field of educational robotics in social studies education.
10. **Continuous Improvement**: Embrace a growth mind-set and continuously seek opportunities for improvement and innovation in educational robotics programs. Stay informed about emerging technologies, pedagogical approaches, and research findings to enhance the quality and relevance of social studies instruction through robotics.

By following these recommendations, educators and stakeholders can promote the effective implementation and long-term success of educational robotics in social studies education, creating engaging and impactful learning experiences for students in the 21st century.

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USER SATISFACTION WITH INFORMATION RESOURCES AND SERVICES IN THE DEPARTMENTAL LIBRARY AFRICAN LANGUAGE AND CULTURE, AHMADU BELLO UNIVERSTY, ZARIA. NIGERIA

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Abstract
This study examines "user satisfaction with information resources and services in departmental library African language and culture, Faculty of Art A B U, Zaria. Nigeria."in order to conduct the study three objectives were formulated in line with the three research questions, what are the types of services are being provided by the ALC Departmental library? What are the extend of satisfaction derived by users from the use of available information resources and What challenges do users face in accessing the services of ALC Departmental Library. The methodology adopted for the study was survey research design. Structured and closed ended questionnaire was used. The data collected for this research was organized, analyzed and presented using. Frequency and percentage. The findings show of that, Circulation desk Types of service Available in ALD Departmental Library, Library Education, Highly Satisfied for and Satisfied on Extend of information services provided to satisfyandLibrary Education Challenges in Accessing Information service**s** in A L C Departmental Library. The study concluded that, African Languages and Cultures Departmental library is under staff and the few staff available are paraprofessional librarians. The number of librarians in the library is grossly inadequate for the number of collection as well as population served by the library. As a result, these librarians may be overstretched in performing their duties and may not able to perform at their optimal. The study recommends that, Book borrowing and Internet service, Photocopying service, Current awareness, Reference Services and Library orientation, Rarely Satisfied and Not Satisfied.

Keyword: User Satisfaction, Information Resources, Services.

Introduction

Every service-providing institution has its clients or customers to whom services are rendered to. The main goal of these institutions is to deliver quality services that will satisfy the needs of their customers. The educational institution as an example has students as their main customers and therefore obliged to render quality educational resources and services that satisfy students' academic needs. This establishes that the achievement and failure of any educational institution are mainly dependent on students' satisfaction. However, academic libraries which are part and the backbone of these educational institutions also has a major part to play for every educational institution to achieve its set objectives. They are therefore obligated to deliver quality library services to satisfy student study, learning, and research needs for the development of the institution, community, and the nation as a whole. It is therefore clear and obvious that clients', customers', or users' satisfaction is an integral and significant value to hold on for any service providing institution. stated that sometimes a customer may be satisfied because the library staff was polite even though his or her need was not met. He therefore, states that customers' satisfaction may or might not be directly related to the performance of a library on a specific occasion. The current study however considers the library's support for users in terms of service provision and how the library treats its users. The purpose of assessing information resources and services. Hanaysha, Abdullah, and Warokka (2011) studied the quality of service and satisfaction in Malaysian university libraries and they established that the

five dimensions of service quality proposed. In addition, user satisfaction and service quality are both unique variables that need ultimate attention, however, they can be connected significantly. Parasuraman., Zeithaml. and Berry, (1988) the developers of the SERVQUAL model for measuring service quality are of the view that customer satisfaction is the precursor to service quality, have a significant effect on users' satisfaction. User satisfaction can therefore be summed up briefly as the satisfaction users obtain from utilizing the library's range of information resources and services to accomplish their everyday needs. GJing, 2021) added that, this means that rendering quality services to these users will significantly influence their satisfaction with the services rendered to them. This will therefore increase user's library usage frequently.

Information resources could be properly assessed. Knowledge (acquired or derived) which are accessible to learners this includes, magazines, newspapers, films, audio and video recording data stored in computer on magnetic tapes, compact disks to mention but few. Additionally, it includes, systems procedures equipment, facilities, software and data that are desired, built, operated and maintained to collect record, process, store, retrieved, display and transmit information Example of library services are reference, circulation, current awareness, cataloging, classification and photocopying etc. The following research will guide the study:

1. What are the types of services are being provided by the ALC Departmental library?
2. What is the extend of satisfaction derived by users from the use of available information resources?
3. What challenges do users face in accessing the services of ALC Departmental Library?

User satisfaction is one of the main determinants of academic libraries' performance in delivering quality to the users. The main objective of all academic library is to deliver quality services to satisfy the needs of all their users being it teachers/lecturers, students, and library staff to assist them in their teaching, learning, and conducting scientific researches for the development of the library, the university, and the nation as a whole. It is therefore eminent for academic libraries which are the main brain behind the learning and research process of university institutions to satisfy the needs of the users of the library by rendering quality services to users and also conducting regular user surveys to elicit their views and their satisfaction for better improvement on current services. (Gyau Jing. &Akowuah, 2021). It will therefore important to evaluate user satisfaction with academic library services from the student's viewpoint to determine if their needs were being met and also if the library services needed improvements. Any service-providing organization strives to render quality services that would satisfy its customers. Academic libraries are no exception as they strive always to innovate and deliver better and quality library and information services to their users. Furthermore, academic library services are supposed to satisfy their users' (students, teachers, faculty workers, librarians, etc.) expectations, their learning, teaching, and research needs because without these users utilizing these resources and services, they will be at waste and redundant. Moreover, from the statement above, it is important to note that long-term innovations and improvements of library services will be determined by evaluating users' satisfaction to ascertain the level of satisfaction with library services. Since students are the majority users of any academic library, it is significant to acknowledge their views and needs, and this study, therefore, considers their perspectives on the services rendered to them and if they are satisfied with these services.

According to Motiang (2014) conducted an evaluation study on user satisfaction with library services and resources at the Medunsa camp. popo. The study used a questionnaire to solicit data from students, academic staff, and administrative staff in the university. Their study discovered that users do make significant use of the library, its services and resources. Specifically, more users are satisfied with the information supplied by the library staff, the majority also indicated their satisfaction with the availability of staff, and the majority of the respondents indicated that they are satisfied with the help they receive from the library staff. However, the user gave recommendations on improving some services to meet the current information age even though they are satisfied. Some of these services included journal collection,

photocopy machines, improvement of the internet service, an increase of library hours, and improvement of the services from library staff. Therefore, regular surveys and orientations should be conducted to ensure that users are always satisfied with academic library services and resources. The study tries to solicit data to determine satisfaction levels of the students, Academic Staff, non-Academic and researcher, the heterogeneous group of library users. This is because this particular group also uses academic libraries hugely and is among the majority users of the academic library services. Yusuf and Iwu (2010), even though libraries and library services are being used, they are, however, reduced to seasonal places of reading as most students make use of the library when preparing for examination. Williams. (2021) and. Hardy (2010) suggested that as well-trained academic librarians ought to be positioned to help readers navigate and evaluate library – based information resources. according to Olofinsawe and Oyeniyi (2010) should build strong collection of information resources/services in physical and digital formats to cater for knowledge requirements of their users. Not all library users do make use of library services, and in some cases. students are not aware of the services the library put in place for them. Obiozor, Echezona. Osadebe, & Asogwa. (2011) noted that physically challenged students find it difficult to use the library especially where the environment is not conducive. The study carried cited examples of the use of stair cases instead of ramps, high or tall shelves instead of the standard 750 – 2000mm shelves. table size and the arrangement of the library itself. In this case, there is need for institutions of learning to have a means of accommodating the physically challenged students by incorporating their information needs into the library setting. The physically disabled student in the words of Olajumoke and Williams. (2021) am one "who suffers physical or sensory impairment, or chronic sickness which could cause educational disadvantages.

Methodology

Survey research design was adopted for the study. was quantitative research method The target population was students, Academic Staff, non-Academic and researcher in ALC Department A.B.U. Zaria. Krejcie and Morgan's sample size calculation were used to determine the sample of the study. The sample is (200) people were used as sample of the study. The sample size for this study is calculated as (1432) Stratified random sampling technique was used to select the sample. A 200-item structured questionnaire was used for data collection. The data collected for this research will be organized, analyzed and presented using the tables in line with the research questions used. Frequency and percentage.

Population of the Study

ALC Departmental Library, A.B.U. Zaria	**Total**
Student	1200
Academic staff	20
Non-Academic staff	5
researcher	212
Total	**1432**

Source: Departmental Secretary ALC Department A.B.U. Zaria

Table 1: Types of service Available in African Language culture Departmental Library

Types of service Available	**Frequency**	**Percentage**
Reference Services	7	3.5%
Indexing/abstract	1	0.5%
Circulation desk	75	37.5%
Photocopying service	13	6.5%
Current awareness	9	4.5%
Book borrowing	15	7.5%
Internet service	15	7.5%
Library orientation	7	3.5%

Amnesty week	0	0%
Cataloging Services	20	10%
Bibliography Services	6	3%
Selective Dissemination of Information	3	1.5%
Lending Services	4	2%
Carination desk services	0	0%
Electronic Media	8	4%
Exhibition	2	1%
SMS Alert Services	1	0.5%
Alerting Services	0	0%
Total	**200**	**100%**

Table 1 revealed that, Circulation desk 75(37.5%) had the highest percentage, while Cataloging Services with 20(10%) followed by Book borrowing and Internet service with 15(7.5%) followed by Photocopying service 13(6.5%) then Current awareness with 9(4.5%) followed by Reference Services and Library orientation, with 7(3.5%) then Bibliography Services with 6(3%) followed by Others please specify with 6(3%)then Lending Services with 4(2%) followed by Exhibition with 2(1%) and SMS Alert Services and Indexing/abstract with 1(0.5%) then Carination desk services with 0(0.0).

Table 2: Extend of information services provided to satisfy the needs in the library in African Language culture Departmental Library

Extend of information services provided to satisfy	**Frequency**	**Percentage**
Highly Satisfied	80	40%
Satisfied	55	27.5%
Rarely Satisfied	45	22.5%
Not Satisfied	20	10%
Total	**200**	**100%**

Table 2 revealed that, Highly Satisfied 80(40%) had the highest percentage, followed by Satisfied with 55 (27.5%) while Rarely Satisfied with 45(22.5%) and Not Satisfied with 20(10%) have the lowest percentage on the Extend of information services provided to satisfy the needs in the library.

Table 3: Challenges do face when Accessing Information services in African Language culture Departmental Library

Challenges in Accessing Information services	**Frequency**	**Percentage**
Insufficient Funds for Acquiring ICT Facilities	17	8.5
Lack of Information Literacy Skills	28	14
Information Retrieval Skills	43	21.5
Awareness of Information Communication Technology	20	10
Library Education	55	27.5
Non-involvement of librarians in acquisition process	13	6.5
Non-involvement of professional publishers or vendor	15	7.5
Lack of adequate fund allocation to the library	5	2.5
Total	**200**	**100%**

Table 3 revealed that, Library Education 55(27.5%) had the highest percentage, followed by Information Retrieval Skills with 43(21.5%) followed by Lack of Information Literacy Skills with 28(14%) then Awareness of Information Communication Technology 20(10). while Insufficient Funds for Acquiring ICT

Facilities with 17(8.5%) followed by Non-involvement of professional publishers or vendor with 15(7.5) and Lack of adequate fund allocation to the library with 5(2.5) have the lowest percentage.

Findings of the study

The study found that, Circulation desk Types of service Available in ALD Departmental Library, Library Education, Highly Satisfied for and Satisfied on Extend of information services provided to satisfyandLibrary Education Challenges in Accessing Information service**s i**n African Language culture Departmental Library.

Conclusion and Recommendations

The main purpose of any library is to provide relevant resources and services aimed at satisfying users. However, the study has brought to the fore certain weaknesses that impede on students' learning and research activities **i**n African Language culture Departmental Library. The study revealed that the students are not Satisfied with extend of information services provided to satisfy the needs in the library and therefore affecting the concentration levels of the library's users. This factor was taken into consideration as a point of dissatisfaction over the conduciveness for learning and other things. The complaints over the currency of textbooks were also considered as a point of dissatisfaction over the library collection. The conduciveness of the library and the currency of the library collection (among others) which are expected to make the library functional and a hub for research and learning are rather lacking. The complaints over the Insufficient Funds for Acquiring ICT Facilities and Non-involvement of professional publishers or vendor were also considered as a point of the Challenges in Accessing Information service in the library.

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APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AND MANAGEMENT OF STUDENTS' RECORDS IN CROSS RIVER UNIVERSITY OF TECHNOLOGY (CRUTECH) CALABAR - NIGERIA

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Abstract
This study investigated the relationship between application of ICT and management of students' records in Cross River University of Technology (CRUTECH), Calabar. Survey design was adopted for the study while three research questions and three hypotheses guided the study. The population of 15 CRUTECH DMIS records officers and 129 university administrators and examination officers were randomly selected from the faculties and departments in the study area. Questionnaires were used to collect data and Pearson's product moment correlation coefficient was used to analyze the data obtained from the field. The results revealed that application of information and communication technology has significant relationship with the accuracy of CRUTECH students information in the school management information system as well as timely and up-to-date record of CRUTECH students information in MIS. A significant relationship was noticed between regular appraisal of the directorate of MIS and effective students record keeping. Based on the findings, it is recommended among others that deans of faculties, heads of departments, examination and records offices of the university should organize orientation programme for their staff on how to use ICT facilities for accurate and timely up-to-date students records and keeping.

Keywords: Application of ICT, Management, Students Records.

Introduction

For several years students' records were usually saved and preserved for future purposes on papers, files and folders without any electronic devices. This makes the retrieval process very difficult and cumbersome. After many years of students' graduation from their respective institutions of learning, information like results, bio-data and progress report during their school years are not availably ready which usually pose a setback and frustration sometimes. This could be through transfer of files due to infrastructural change or lack digitization through the use information and communication technology. In order to contain this problem the management of Cross River University of Technology (CRUTECH) introduced the Directorate of Management Information System (MIS). Regrettably, since the inception of DMIS in CRUTECH, this problem still lingers; accuracy in students' information as well as timely up-to-date of students' records still need attention.

Adequate management of students' records underpins decision making, protects rights of students and helps universities conduct business and services in a consistent, effective, efficient and equitable manner. Contemporary world is characterized by revolutionary advances powered by Information and Communication Technology (ICT). The world is being reduced to a global village through the use of information and communication technology. ICT promotes national development and better relationship with other nations. ICT refers to the electronic and communication devices associated with human social materials that enable the individuals to use them for a whole range of instructional process (Thankgod &

Ucheju, 2021). Information and communication technology facilities are described as all the equipment available for the identification, generation, processing, storage, packaging, preservation, and conservation and sending of information, regardless of time and location challenges with maximum accuracy. In other words, Information and Communication Technologies are information handling tools used for producing, storing, processing, distributing and exchanging of information. ICT facilities influence and affect people's" and corporate work life in one way or the other (Thankgod & Ucheju, 2021).

Chiwanza and Mutongi (2016) identified number of implications of not having proper records management in higher institution of learning such as; failure to have history of the organisation; fading away of institutional memory; arbitrary decision making; repetition of tasks which leads to waste of resources and time; failure to provide accurate students results; unable to trace students records if they come for reference years later; unable to reconstruct after a disaster etc. Other implications are difficulties in accounting for any decisions taken (Nyathi & Peterson, 2017), delay in decision making, overlapping of authority and responsibility among human resources and registry staff. Muhammad, Isa, Samsudin and Miah (2020) stated that Universities in Nigeria aspire to be on the global map with better international rankings. Regrettably, they are overwhelmed with inefficient administration and management due to poor management of records and information. From the review of the literature it appears that academic records management in Nigerian Universities is not given the proper treatment. The picture is dejected; the records being kept without proper care, no RM strategies, no adequate funding, there is lack of top management commitment towards RM, lack of training programme for staff handling university records. This suggests that students' academic records are not adequately managed as a result the Universities as well as the students may suffer some consequences.

In the management of students' records in tertiary education, Nwaomah (2015) stated that students" records can be organized into three broad categories. The first category refers to records documenting the contractual relationship between students and the institution. This includes records documenting admission and enrolment, payment of tuition fees, academic and non-academic disciplinary proceedings. The next category consists of records "documenting the student as a learner such as records documenting programmes undertaken, academic progress and performance awards. The last category is records documenting the student as an individual and consumer of services provided by the institution. In this category are records documenting use of accommodation services, counselling services, library and IT support services, careers and employment services" (JISC/InfoNet, 2007). These records are important because they serve as major information tools that protect students' rights, such as the right to ownership of a degree with the right class, documented through academic cumulative records (scholastic performance). For example, organizations and institutions in Nigeria rely on universities' authentication of certificate/transcript claims. Otherwise, employment or admission for postgraduate study can be denied or compromised as a result of incorrect or lack of authentic records or failure to retrieve records. Students' records, whether in paper or electronic format, are important resources for universities and should be harnessed through effective records management practices. The smooth running of any higher institution depends on effective and efficient records management. Unfortunately, many years of neglect had done great damage to records management in the educational sector. Eguwunyenga (2009) maintains that "personnel who maintain registry system with filing cabinets containing paper evidence of university business are inadequate and, in fact, ignorant of their responsibilities. Therefore the use of contemporary information system become sacrosanct for effective and efficient not only to store students' information but to transmit it to any part of the world when necessary. It is on this note that this study is prompted to address application of Information Communication and Technology (ICT) in Management of Students' Records in Cross River University of Technology.

Academic records are vital documents that contain valuable information related to students programmes in schools. Records of different types are received in tertiary institutions in Cross River University of Technology (CRUTECH). Part of such records include students' academic records such as students

admission files, admission letters, payment records, medical records, continuous assessment records, examination scripts, examination results, accommodation records, end of semester academic progress report etc (Shehu, 2017). More so Ibiam (2004) noted that many years of neglect had done great damage to the education sector and records keeping are not an exemption. The purpose of record keeping for efficient and effective school management is to ensure that accurate and proper records are kept on student's achievements and growth, school activities and matters that will promote school efficiency and effectiveness. Students' academic records are splendid and paramount important in any organisations especially in higher learning institutions which created, organize, preserve and retrieve the information. Students' academic records in higher learning Institutions CRUTECH, Calabar comprised the office of the registrar, examination and records office, Bursary office, library department, registry open and secret and Directorate of Management information systems etc.

Students' academic records, as outlined by Dalton (2014) in (Dano & Ibrahim, 2021), is a section that reviews the accuracy of students' data upon students matriculations and is responsible for maintaining all academic records. This maintenance includes ensuring that all changes to students' records, such as name changes and grade changes are done accurately and according to university policy. Richard (2005) of the University of Washington proposed single records management archives goals: responsible records use and administration leading to either authorized destruction or archival preservation and administration. Mohammed (2011) posited that, in LivingStone International University Uganda Campus, information of managements records are recorded every semester, and at the end of the year, the summary is done. The recording is done by the secretary, registrar of the students records in LivingStone the university with the latest technology or advance technology and they are still used paper based methods during recording whereby it take long time to capture one's information from paper into system and yet they have daily activities to do (Benetti, 2011). Management of students' academic records in higher learning Institutions in Nigeria faced a lot of challenges which according to Maidabino (2003) include inadequate fund, poor training, lack of adequate infrastructure and modern technology; which generally affect the organisation and preservation of records. Shehu (2008) reviewed the literature on problems affecting records management in organizations from a general and global to regional (African) and Nigerian public sector perspectives, this review made (Dano & Ibrahim, 2021) submit that, despite the invaluable roles records play in organisations, officials often exhibit misconceptions and indifference to the management of records, which have been hindering public accountability. In another report Akussah (2006) stated that all African countries face problems in maintaining and developing their records, as it relates to records associated with the activities of appraisal, accessioning, description, arrangement, preservation and conservation of records.

According to Attwood and Grill (2008), the challenges of records management are inadequate qualified personnel, increasing students' population and inadequate storage space. Some administrative staff of academic institutions carp funds and facilities inadequate for records keeping. Lawal (2007) attributes the challenges associated with organisation's records management to inadequate funding, lack of facilities, and infrastructure. Brendan (2012), observed that the major challenges associated with records management are weak legislative and organizational infrastructure (ICT tools). Mutual and Wamukoya (2009), reports the challenges in records management as lack of institutional plans for managing electronic records, inadequate knowledge about the role of records management in ensuring efficiency and accountability, inadequate stewardship and coordination in handling records, lack of legislation, policies and procedures to guide the management of records, Lacks of requisite competencies in records and archives management, insufficient budgets allocation for records management, poor security and confidentiality controls, lack of records retention and disposal policies, and absence of migration strategies for electronic records. Studies by Mutual and Wamukoya (2009); Iwhiwhu, (2005) and Eguwunyenga (2009) indicate that African records keepers lack the basic skills and competencies for handling librarians, records and archives. Inadequate skills in information technology made many traditional librarians, records managers, and archivists very conservative and have phobia for computers. Kemoni, (2009), reports that many countries in Eastern and Western Africa lack the capacity in electronic records management. Identifiable areas of deficiencies and

challenges in managing electronic records include lack of policy and legislation, Standardisation, authenticity, capacity building, physical infrastructure and lack of awareness among record keeping professionals and government authorities on electronic records management issues.

Appraisal is a systematic, general and periodic process that assesses an individual employee's job performance and productivity in relation to certain pre-established criteria and organizational objectives (Muchinsky, 2006, Broady-Preston, 2000). Other aspects of individual employees are considered as well, such as organizational citizenship behaviour, accomplishments, potential for future improvement, strengths and weaknesses, etc. Muchinsky (2012). To collect Appraisal data, there are three main methods: objective production, personnel, and judgmental evaluation. Judgmental evaluations are the most commonly used with a large variety of evaluation methods. Historically, Appraisal has been conducted annually (long-cycle appraisals); however, many organizations are moving towards shorter cycles (every six months, every quarter), and some have been moving into short-cycle of weekly and bi-weekly Appraisal (Muchinsky, 2012; Manasa and Reddy, 2009). The interview could function as "providing feedback to employees, counseling and developing employees, and conveying and discussing compensation, job status, or disciplinary decisions" (Groove, 2002). Appraisal is often included in performance management systems. Appraisal helps the subordinate answer two key questions: first, "What are your expectations of me?" second, "How am I doing to meet your expectations?" (Sudarsan, 2009). The objective of appraisal is to access the performance of either organization as a whole or individual working collective to achieve the overall goal/objective of the organization.

The focus of the appraisal of the Directorate of Management Information System is to measure and to improve the actual performance of the directorate and also the future potential of the directorate. Its aim is to measure what a staff does. Shelley (2019) considers Performance Appraisal as a systematic way of reviewing and assessing the performance of an employee during a given period of time and planning for his future. It is a powerful tool to calibrate, refine and reward the performance of the employee. By focusing the attention on performance, performance appraisal goes to the heart of Human Resource management and reflects the management's interest in the progress of the employees.

The above expositions establish performance appraisal as a clear and concise, regular and unbiased system of rating an employee's performance in her current position, which can also be used to determine how far the employee can go in career development. The benchmarks of such appraisals are usually the job description in tandem with stated organization's objectives. An organization engages a person for the purpose of employing his skills to achieve certain goals and objectives (likewise CRUTECH Directorate of Management Information System is not only to provide formal system where staff and students profiles are catalogued and automated thereby providing management with accurate, timely and up-to-date information necessary or decision making, but to also reorganize the directorate to reposition it for effective service, reconfiguring the result processing software since the online server has not been paid for but needed to process results and construct a server room, correction of students' school fees error, update students' profile, conduct SUG elections among other activities (DMIS, 2017)). Often, the employer needs to take stock and determine the value of each employee, his potential, and what his future in the organization is likely to be. In the researchers' opinion this is accomplished through the practice of performance appraisal.

In view of the indispensable role of ICT in modern era, and its introduction to the management of information in CRUTECH, this study was undertaken to examine its application by MIS Directorate in CRUTECH with recourse to accuracy, timely and up-to-date students' records keeping.

Objectives

The overall objective of this study was to examine the application of information and communication technology and management of students' records in Cross River University of Technology – Calabar, Nigeria. The specific objectives includes the investigation of the relationship between

i. Application of ICT and accuracy of CRUTECH students' information in the University Management Information System
ii. Application of ICT, timely and up-to-date students' records keeping in the University Management Information System
iii. Regular appraisal of the directorate of MIS and Students' Record Keeping in Cross River University of Technology.

Hypothesis

The following hypotheses were formulated to guide the study:

i. There is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System
ii. There is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System
iii. There is no significant relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology.

Methodology

Survey design was adopted for this study. This design was use in this study because it is economical, allowed a large population to be studied with less expense and it findings can be generalized to other areas outside the study area. The study area is Cross River State University of Technology (CRUTECH); CRUTECH is located in Calabar South Local Government Area of Cross River State. CRUTECH has 8 Faculties and 21 Departments. The population of 15 CRUTECH DMIS records officers and 129 university administrators and examination officers were randomly selected from the Faculties and Departments in the study area. A structured questionnaire tagged "Application of Information and Communication Technology (ICT) in Information management system and Students' Records Questionnaire" (AICTIMSR) containing 20 items was the instrument for data collection. The instrument was first validated by three (3) experts: these experts scrutinized the instruments in terms of suitability and was administered to respondents to get the reliability coefficient of the instrument. After administration of the instrument internal consistency reliability was computed using Crombach Alpha (a) with an overall index of 0.79. This was considered to be appropriate for the study. Pearson's Product Moment Correlation Coefficient was used to analysed the data.

Analysis

Hypothesis one

There is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System. Data collected in respect to this hypothesis were tested using Pearson product moment correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is presented in table 1.

Table 1: Pearson product moment correlation coefficient analysis of the relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System (N=144)

Accuracy	$\overline{X}$	S.D	Sig.	r-cal
Application of Information Communication Technology	6.7757	1.46859		
			0.108	0. 256
Accuracy of Information Communication Technology	57.6168	13.67317		

X = 0.05, critical r= 0.195, df = 142

The summary of results presented in Table 1 above shows that the calculated r-value of 0.256 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the null hypothesis was rejected while the alternate hypothesis was upheld. This means that, there is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System.

Hypothesis two

There is no significant relationship between application of ICT and timely and up-to-date students' record keeping in University Management Information System. Data collected in respect to this hypothesis were tested using Pearson product moment correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is presented in table 2 below.

Table 2: Pearson product moment correlation coefficient analysis of the There is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System (N = 144)

Variables	$\bar{X}$	**S.D**	**Sig.**	**r-cal**
Application of Information Communication Technology	17.1495	1.39949		
			.091	0.264
		13.67317		
Timely and up-to-date of CRUTECH students' information in MIS	57.6168			

X = 0.05, critical r= 0.195, df = 142

The summary of results presented in Table 2 shows that the calculated r-value of 0.264 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the null hypothesis was rejected while the alternate hypothesis was upheld. This means that, there is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System

Hypothesis three

There is no significant relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology. Data collected in respect to this hypothesis were tested using Pearson product moment correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is as presented in table 3 below.

Table 3: Pearson product moment correlation coefficient analysis of the relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology (N = 144)

Variables	$\bar{X}$	**S.D**	**Sig.**	**r-cal**
Regular Appraisal of the Directorate of MIS	17.0093	1.40414		
			0.001	0. 246
Effective students' record keeping	57.6168	13.67317		

X = 0.05, critical r= 0.195, df = 142

The summary of results presented in table 3 above shows that the calculated r-value of 0.246 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the

null hypothesis was rejected while the alternate hypothesis was upheld. This means that, regular appraisal of the directorate of MIS has a significant influence on Students' Record Keeping in Cross River University of Technology.

Discussion

Findings were discussed based on the outcome of the result.

Application of ICT and accuracy of CRUTECH students' information in the university Management Information System: Data analysis revealed that the application of Information and Communication Technology (ICT) has significant relationship between accuracy of CRUTECH students' information in the university Management Information System (MIS) and this is supported by Thankgod and Ucheju (2021), they gave explanation that information and communication technology facilities are described as all the equipment available for the identification, generation processing, storage, packaging, preservation and conservation and sending of information, regardless of time and location challenges with maximum accuracy.

Application of Information and Communication Technology (ICT) and timely and up-to-date of CRUTECH students' information in the university Management Information System (MIS): Data analysis revealed that there is a significant relationship between application of Information and Communication Technology (ICT) and timely and up-to-date of CRUTECH students' information in the university Management Information System (MIS). This findings is in agreement with Chiwanza and Mutongi (2016) identified number of implications of not having proper records management in higher institution of learning such as; failure to have history of the organization; fading away of institutional memory, arbitrary decision making; repetition of tasks which leads to waste of resources and time; failure to provide accurate students results; unable to trace students records if they come for reference years later; unable to reconstruct after a disaster etc. Other implications are difficulties in accounting for any decision taken.

Regular appraisal of the directorate of Management Information system (MIS) has a significant relationship between students' record keeping in Cross River University of Technology (CRUTECH). Data analysis revealed that regular appraisal of the directorate of Management Information System (MIS) has a significant relationship between students' record keeping in Cross River University of Technology (CRUTECH). This findings agrees with Sudarhsan (2009) who state that the objective of appraisal is to access the performance of either organization as a whole or individual working collective to achieve the overall goal/objective of the organization.

Performance appraisal systems are employed "to manage and align" all of an organization's resources in order to achieve highest possible performance (Muchinsky, 2012). That is, a well-organized and purposive appraisal improve the performance of staff which in turn translate into the general growth of the organization.

Conclusion

From the findings, it has been concluded here that ICT application is crucial to students' record keeping in CRUTECH. There is a significant relationship between application of ICT and management of students' records as it enhances accuracy as well as timely and up-to-date record of students' data in MIS. Furthermore, appraisal of MIS directorate is very necessary for effective record keeping in CRUTECH.

.**Recommendations**

Based on the findings and conclusion of the study, the following recommendations are put forth:

1. Deans of Faculties, Departmental Heads and Office of Examination & Records officers of the University should organize orientation programme for their staff on how to use ICT facilities for students' record keeping.
2. There should be free and compulsory ICT lectures for MIS staff by providing them with practical and functional knowledge of the computer, the internet and associate areas of ICT for record keeping.

3. The university quality assurance unit and office of the Deputy Vice Chancellor Administration should ensure regular appraisal of the directorate of MIS with the view to having them performing optimally.

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INFLUENCE OF HUMAN RESOURCE MANAGEMENT ON STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN KADUNA STATE, NIGERIA

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Abstract
This study assessed the Impact of human resource management on students' performance in secondary schools in Kaduna State. The study adopted the descriptive survey design. The population of the study is made up of principals, teachers and supervisors in Kaduna State. A sample size of 25 principal, 527 teachers and 7supervisors were sampled for the study making the total of 559 respondents. This samples size was arrived at using stratified sampling technique. The instrument used for data collection is questionnaire and it was duly validated by experts in educational administration and planning, language and test and measurement. The reliability of the instrument was determined using Cronbach Alpha technique which showed a reliability index of 0.84. In order to answer the research question, mean and standard deviation was used, while the null hypothesis was tested using Analysis of Variance (ANOVA) at 0.05 alpha level of significance. Finding showed that there is significant difference in the impact of human resources management on students' performance in public secondary schools in Kaduna State. Recommendations were made among which is that school leaders should provide opportunities for teachers' professional development and encourage them to attend training sessions and subject forums organized by the ministry of education.

Keywords: Human Resource, Management, Academic Performance, Secondary Schools.

Introduction

In any educational institution, it is the work of teachers that determines the degree of success or failure in the institution"s effort to achieve its goals of integrating morality and learning. This implies that "It is the teacher who ultimately interprets and implements policy as represented in the school curriculum, which is designed to actualized educational goals (OmoJunwa, 2007). So maintaining and improving educational standard is only possible through teachers, and that can lead to students" a c a d e mi c a c h i e v e me n t . Adediwura and Tayo (2007) opined that academic achievement is designed by test and examination scores assigned by the teachers to students. Therefore students" a c a d e mi c p e r f o r ma n c e i s of great importance in the educational institution. It is the basis for judging the quality of output vis-à-vis the input in the educational institution. One major input which can largely influence academic performance of student is human resources. That is why, the human resource management practice of recruitment, staffing, promotion, transfer etc must be implemented effectively.

Resource management is the efficient and effective deployment of an organisation's resources when they are needed. Such resources may include financial resources, inventory, human skills, production resources, or information technology (IT). Also, resource management can include ideas such as making sure one has enough physical resources for one's business but not an overabundance or making sure that people are assigned to tasks that will keep them busy and not have too much downtime.

Education resources include all movable and immovable materials, which are used for teaching, learning and other school activities. They are synonymous with school physical facilities, school material resources, school plant and school facilities. Olagboye (2004) stated that education resources consist of instructional resources such as audio and visual aids, graphics, printed materials. display materials and consumable

materials. They also include physical resources such as land, building, furniture, equipment, machinery, vehicles, electricity and water supply infrastructure.

Resource management is an integrated approach to operating, maintaining, improving and adapting the building and infrastructure of an organization in order to create an environment that strongly supports the primary objectives of that organization (Atkin & Brooks, 2000:1). Resource management can also be seen as the development, co-ordination and control of the non-core specialist services necessary for an organization to successfully achieve its principal objective (American Library of Congress 1989, in Barrett, Ed, 1993:23).This definition incorporates the element of development as part of the functions of resource management, highlighting that it is part of a constantly changing environment in the core activities of an organization.It suggest that Resource Management provides a supporting management function to the core business of an organization; concentrates on the area of interface between physical workplace and people; and requires a multi-skill approach to integrate people, place, process and technology in executing its support functions. The function could be as complex as strategic planning to as menial as cleaning services and a range of services in between.

In education institutions, facilities constitute essential inputs, which create favourable learning environment, facilitate interaction and enhance organisational performance (Oyesola, 2007). In essence, the school curriculum would not be meaningful and functional if required facilities are not provided in adequate quality and quantity at appropriate times through the principal's administrative finesse (Uko & Ayuk, 2014).The International Resource Management Association (2003), described resource management as the practice of co-ordinating the physical workplace with the people and the work of the organization by integrating the principles of business administration and architecture with the behavioural and engineering sciences. This culminates in the collective and participative decision making process towards the selection, establishment and installation of school plants; design of school grounds, halls and spaces; upgrading, innovation and purchase of new machineries and equipment; choice, design and implementation of programmes and projects; backup and review of management policies, practices, rules and regulations.

Resource management in schools, play a pivotal role in the actualization of education goals and objectives by satisfying the physical and emotional needs of the staff and students. According to her, physical needs are met through the provision of safe structures, adequate sanitary facilities, a balanced visual and thermal environment, sufficient shelter space for work and play; while emotional needs are met by creating a pleasant surroundings, friendly atmosphere and an inspiring environment. Supporting the need for effective resource management in schools, Fenker (2004), stated that it involves a planned process to ensure that the buildings and other technical systems support the proper discharge of operations and services within the school organization.In addition, there would be safety from danger, disaster and theft when resources are well managed, certain facilities, especially the ones in the laboratories, are delicate, dangerous, expensive and explosive. They need to be well managed in order to avoid the danger which would arise from their usage. Also, disasters such as flood and fire could be avoided if there is proper planning for safety precautions (Asiabaka, 2008).

According to Uko (2001), effective management of school resources requires knowledge, skill and expertise in handling different facets of the school system. This to her calls on the ability of the principal to set required objectives, supervise resource usage, formulate plans for procurement and ensure actual management and supervision of available facilities to attain set goals of the school system. The principal as the manager of the school organization therefore has the onerous task of mobilizing available human resource to ensure a proper running of the school.Any organisation that does not plan for its human resources will often find that it is meeting neither the personnel requirement nor its over-all goals effectively (Stoner, 1978 as cited by Osagie&Okafor, 2012). For example, a school may decide to introduce new subjects into its school curriculum, if the school does not make adequate arrangements for the teachers to handle these new subjects, the subjects will remain on the time table without being taught. To further

buttress this point, when the federal government launched the 6:3:3:4 system of education, it spent huge financial resources on equipment for technical education. However, the human resources required to operate the equipment was not considered. Consequently, the equipment were left to rot in the rain and many of the equipment were eventually stolen by hoodlums.

Another aspect of human resources management in the school is the workload of the staff. This is the amount of work assigned to a teaching position. Staff workload include teaching subjects, administrative duties, supervision of students and other activities. In the research findings on teachers' workload by Naylor and Malcomson (2001), teachers saw their workload increased because they spent fifty-three hours a week preparing their lesson notes for teaching and marking scripts. The teachers reported that they modified their teaching methods to enable them cope with the stress of the workload. When that happened, it was difficult for them to accomplish all their objectives because of the lack of time. Consequently, the performance of the teachers and the students was impaired.

Secondary education which serves as a link between primary and tertiary levels, is vital to national development. Management of resources at this level is very vital to achievement of education objectives and appropriate management techniques would assist in taking care of all available resources. In ether words, resources which might have suffered neglect as a result of carelessness, ignorance, lack of commitment and proper management, would receive attention from school administrators and inspectors. Also, school resources which are well managed are likely to be durable. This will save us the lost of replacement within a short period of procurement. In the light of this background, this study will be carried out to determine the impact of human resource management on students' academic performance in public secondary schools in Kaduna State.

Objective of the Study

The main objective of the study is to examine the impact of human resource management on students' academic performance in public secondary schools in Kaduna State. The specific objective is to: Assess the impact of human resource management on students' academic performances in public secondary schools in Kaduna State.

Research Question

The following research question was answered:
Is there impact of human resource on students' academic performance in public secondary schools in Kaduna State?

Research Hypothesis

The following null hypothesis was postulated:
There is no significant difference in the impact of human resource management on students' academic performance in public secondary schools in Kaduna State.

Method

The study adopted the descriptive survey type because the study assess theimpact of resources management on students' performance in public secondary schools in Kaduna State.The population of this study is made up of supervisors, principal and teachers of public senior secondaryschools in Kaduna State. From the total population, a sample size of twenty five (25) principal, five hundred and twenty seven (527) teachers and seven (7) supervisorswere sampled for the study making the total of five hundred and fifty nine (559) respondents. This sample size represented 30% of the entire population, which is in accordance to the recommendation of Aderonmu (1985) cited in Isah (2012). This samples size was arrived at using stratified sampling technique.

The instrument used for data collection in this study is questionnaire, constructed by the researcher which was subjected to validity. The questionnaire was divided into two sections, the first section contains personal data information of the respondents such as status, gender, qualifications and year of experience, while the second section consisted of 10 questions items. The items was used to elicit information from participants. The questions was a five (5) point linkert scale of Strongly Agree (SA), Agree (A), Undecided (U), Strongly Disagree (SD) and Disagree (D).

The responses on strongly agree and agree were merged to be agree while disagree and strongly disagree were also merged to be disagree. The responses was coded as strongly agree (5), agree (4), undecided (3), strongly disagree (2) and disagree (1).To make the questionnaire instrument valid, the instrument was giving to experts for content and construct validity.

The trial test of the questionnaire instrument was carried out by administering the instrument on 5 principals, 25 teachers and 3 supervisors in Lere education zone, Kaduna state but which were notused for the main study. The reliability co-efficient was determined usingCronbach Alphatechnique which showed a reliability index of 0.84. Based on this result, the instrument was declared reliable. This was a confirmation of test of reliability which according to Spiegel(1992) and Stevens (1996) cited in Alasoluyi (2015) that an instrument is considered reliable if it's reliability coefficient lies between 0 and 1, and that the closer the calculated reliability coefficient is to zero, the less reliable is the instrument, and the closer the calculated reliability coefficient is to 1, the more reliable is the instrument.

The bio-data of the respondents was analyzed using descriptive statistics in the form of tables, frequency distribution and percentages to present and describe the pattern of the demographic characteristics of the respondents. In order to answer the research question, mean and standard deviation was used. For the null hypothesis, Analysis of Variance (ANOVA) was used to test each of the hypotheses at P = 0.05 (5%) level of significance. Any hypothesis that is greater than 5% or p = > 0.05 was rejected and hypothesis that is less than 5% that is, p = < 0.05% was retained.

Research Question One: Is there impact of human resources on students' performance in public secondary schools in Kaduna State?

Table 1: Descriptive Statistics on the Impact of Human Resources on Students' Performance in Public Secondary Schools in Kaduna State

SN	Statement		SA	A	U	SD	D	Mean	SD
1.	Teachingand non-teaching staff always work towards the goal attainment in the school	Principals	15	0	0	10	0	4.419	.5000
		Teachers	163	124	33	179	28	4.142	1.283
		Supervisors	0	2	3	2	2	4.120	1.253
2.	The teachers are well qualified.	Principals	0	10	4	10	1	2.920	.9966
		Teachers	10	176	49	82	210	3.400	1.351
		Supervisors	1	6	0	0	0	2.383	.3779
3.	There are adequate teachers in the school	Principals	0	13	2	2	8	2.800	1.384
		Teachers	28	94	41	176	188	2.237	1.254
		Supervisors	1	0	0	2	4	3.857	1.463

4.	The teachers only teach what they are qualified for.	Principals	0	6	3	0	16	1.960	1.337
		Teachers	27	259	84	99	58	3.186	1.136
		Supervisors	1	4	0	2	0	3.571	1.133
5.	Getting the right result through people is the most important function of management in the school	Principals	0	8	5	2	10	2.440	1.325
		Teachers	3	232	128	79	85	2.979	1.122
		Supervisors	1	1	1	0	4	2.285	1.704
6.	Human resources are adequately motivated in the school	Principals	0	10	5	8	2	3.920	1.037
		Teachers	12	227	131	127	30	3.121	.9887
		Supervisors	1	0	1	3	2	2.285	1.380
7.	In-house training are organised to boost teachers working knowledge in the school	Principals	0	15	7	1	2	3.400	.9128
		Teachers	11	203	73	141	99	2.783	1.201
		Supervisors	1	1	1	3	1	2.714	1.380
8.	Staff are sponsored to attend seminars, workshops and conferences in the school	Principals	8	14	2	0	1	2.285	.8812
		Teachers	32	155	39	185	116	2.624	1.276
		Supervisors	1	0	2	4	0	2.714	1.112
9.	Staff salaries and other entitlements are promptly paid	Principals	4	13	6	1	1	3.720	.9363
		Teachers	2	217	66	114	128	4.717	1.240
		Supervisors	1	0	0	4	2	2.142	1.345
10.	Staff welfare schemes are available in the school	Principals	0	15	6	0	4	3.280	1.100
		Teachers	3	142	55	166	161	3.354	1.189
		Supervisors	1	0	0	2	4	1.857	1.463

Cumulative Mean = 3.1

Table 1 revealed that human resources have impact on students' performance in public secondary schools in Kaduna Stateas the cumulative response mean of 3.1 was greater than the decision mean of 3.0. The implication of this result is that, management of human resources in Nigeria education system which includes teaching and non-teaching staff can impact students' performance positively. Hence, details of item 1 which has the highest response mean from all the respondents showed that a total of 15 principals strongly agreed with item 1, while 10 strongly disagreed. Also, a total of 163 teachers strongly agreed, while 124teachers agreed, against 33 that stayed undecided and 179 that strongly disagreed. Similarly, 2 supervisors agreed with item 1 against 3 of them that stayed undecided and 2 strongly disagreed with 2 that disagreed with the item.

Hypothesis Testing

Hypothesis One: There is no significant difference in the impact of human resources management on students' performance in public secondary schools in Kaduna State.

Table 2: Summary of Analysis of Variance (ANOVA) Statistics on the impact of human resources management on students' performance in public secondary schools in Kaduna State

Status	Sum of Squares	Df	Mean Square	F-ratio	F-critical	Prob.
Between Groups	.295	2	.295	4.205	3.15	.003
Within Groups	866.278	557	1.650			
Total	**866.573**	**559**				

Table 2 showed the f-ratio value of (4.205) at 2 df 557 and at 0.05 alpha level of significance. The critical value (3.15) is less than f-ratio value (4.205), the probability level of significance P(.003) is less than 0.05. This means that there is significant difference in the impact of human resource management on students' performance in public secondary schools in Kaduna State. Therefore, the null hypothesis is rejected.

Finding

In view of the hypotheses tested in this study, findings revealed that:

1. The respondents differ in their opinions on the impact of human resources managementon students' performance in public secondary schools in Kaduna State;

Recommendations

Based on the findings from the hypotheses tested in this study, the following recommendations are worthy of note that:

1. There is the need for Kaduna State government through the state ministry of education and other related agencies to ensure adequate human resources managementfor effective service delivery in secondary schools in the state;

2. There is the need for Kaduna State government through the state ministry of education and other related agencies to ensure adequate provision and effective managementofmaterial resources as they impacted positivelyon students' performance in public secondary schoolsin Kaduna State.

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LEVERAGING TECHNOLOGY FOR ENHANCE ELECTRONIC PUBLISHING IN ACADEMIC LIBRARIES: TRENDS, CHALLENGES, AND SOLUTIONS

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Abstract

The emergence of technologies and the use of network and Internet resources have altered how academic libraries publish and distribute content. Electronic publishing has revolutionized the dissemination of scholarly information in academic libraries, enabling efficient access and global reach. However, to fully leverage the potential of electronic publishing, libraries must navigate various trends, overcome challenges, and implement effective solutions. This paper examines leveraging technology for enhanced electronic publishing in academic libraries, the paper discusses electronic publishing and identifies emerging trends in publishing some of which are open access movement, e-books, self-publishing, and print on demand. The Challenges associated with leveraging technology include issues with ownership and Licence agreements, Preservation and Long-Term Access, and Technological obsolescence among others. The solutions to these challenges were also highlighted. The paper concluded that by implementing the solutions, libraries can streamline publishing workflows, improve information discovery, foster knowledge sharing, and provide better services to researchers and readers.

Keywords: Electronic publishing, academic libraries, technology, trends, challenges, solutions.

Introduction

The advent of the internet and digital technologies has facilitated the rapid dissemination of research outputs, enabling academics to reach a wider audience beyond traditional print publications. Technology continues to evolve at a rapid pace, Artificial intelligence (AI) and machine learning (ML) developments are opening up new opportunities for improving the processes involved in electronic publishing (Gavrilova, 2020). The electronic publication can be viewed in the context of academic libraries as the distribution of scholarly information in digital formats, such as journals, books, conference proceedings, and research data. It is essential for facilitating access to scholarly materials and assisting the academic community's demands for learning and research.Because of this, libraries are utilizing electronic publication platforms more frequently to expand the audience for scholarly works, enable their global diffusion across borders, and increase their effect.This change has resulted in the creation of institutional repositories, online journals, eBooks, and digital archives, giving researchers and academics other channels for disseminating their work other than the realm of traditional print publications. (Borgman, 2017).

Trends in Electronic Publishing

The dynamic environment of electronic publishing in academic libraries is continually being altered by new developments that affect how scholarly content is shared and used. Libraries must keep up with these trends

as technology develops and user expectations change in order to successfully modify their electronic publishing strategies and satisfy the demands of users and scholars. some of the key trends in electronic publishing that are reshaping the scholarly communication ecosystem within academic libraries. According toMgbechikwere&Nkwachi (2021) and Murugan, Ravi & Surianarayanan(n.d) includes:

1. **Open Access movement**: Academic libraries are actively advancing open access by promoting open licensing, institutional repositories, and author-pays publishing models. This trend addresses challenges of affordability and fair access to information in addition to improving the exposure and effect of research. The open access movement is still growing, propelled by the idea that free access to intellectual content encourages cooperation and creativity.
2. **Electronic books:** Electronicbooks are electronic versions of books, which are delivered to consumers in digital format using special software such as OEB,Adobe's PDF, which makes documents or pages of a book easier to read. Electronic book publishing enables rapid information sharing and publication.
3. **Self-publishing:** Self-publishing makes it possible for academics to disseminate their work to the public much more quickly, facilitating the timely dissemination of cutting-edge research. Self-publishing frequently adheres to the principles of open access, making research freely accessible to readers everywhere. Academic libraries can promote international collaboration and knowledge dissemination by promoting self-published materials.
4. **Print on demand:** Print on demand allows academic libraries to offer the benefits of both worlds. It allows libraries to accommodate users' requests for tangible books while primarily emphasizing electronic resources. For rare, out-of-print, or specialized items that might not be available in digital forms, print on demand offers a tangible alternative, which complements electronic publishing. A wider range of user demands and preferences can be accommodated thanks to this improved access.
5. **Digitization of Academic Resources**: Electronic publication has noticed a significant trend with the digitization of academic resources. Academic libraries are digitizing more and more of their holdings, which includes books, journals, archival documents, and other intellectual resources. To make physical items more accessible and searchable, this technique entails transforming them into digital versions. Digitization allows for remote access to resources, the preservation of priceless content, and the removal of geographic restrictions on space requirements.

Challenges in Electronic Publishing

The benefits of electronic publication cannot be overemphasized; however there have been challenges to its adoption in academic libraries. According to Ikegwuiro, Nyatse, & Didam (2020) and Kim & Abbas, (2019). some of the challenges are:

- **Ownership and License agreement issues**: Remotely located electronic resources are frequently still owned by the sellers or publishers. The terms and circumstances of the agreement and licensing policy, which govern libraries' access to these materials, can occasionally present major issues, particularly after the subscription has expired.
- **Preservation and Long-Term Access**: In electronic publishing, digital preservation poses a significant challenge since it necessitates effective preservation strategies that take into account data movement, format obsolescence, and technical advancements.
- **Financial constraints:** The price of maintaining electronic publications is fairly high, and the cost of subscriptions to scholarly journals, databases, and e-books is also rising. Financial constraints are significantly more severe in developing countries like Nigeria than they are in the developed.
- **Technological obsolescence:**Academic libraries may find it difficult to maintain and upgrade the technological infrastructure needed for electronic publishing. It's a rather frequent tendency for electronic resources to be transferred continuously from one hardware/software combination to another, or from one generation of computer technology to a newer generation.

- **Absence of a national repository of electronic publications and legislative provisions**: There is no legal need that publishers deposit electronic and optical publications with a National Library of Nigeria, as they are required to do with print documents.
- **Copyright issues:**Significant obstacles in electronic publishing arise from copyright issues. The availability and utility of electronic resources may be constrained by restrictions on copyrighted content' reproduction, distribution, and access.

Solutions for Enhancing Electronic Publishing

To enhance electronic publishing in academic libraries, it is crucial to implement effective solutions that address the challenges and capitalize on the opportunities presented by digital platforms. The solutions to the above mention challenges includes:

- Academic libraries should negotiate fair and reasonable license terms with the sellers or publishers, using model licenses as a guide.
- Implement the best practices and standards for digital preservationsystems to ensure the long-term integrity, authenticity, and accessibility of digital content.
- Academic libraries should engage in consortia purchasing and resource sharing agreements with other institutions to pool resources and negotiate better subscription prices.
- Academic libraries can embrace technological change by being innovative and experimental in their use and development of technologies.
- There is a need toamend the legal deposit legislation in Nigeria to cover electronic and optical publications as well.
- Educate library staff, researchers, and users about copyright regulation and fair use provisions in order to ensure compliance with copyright laws

Conclusion

Enhancing electronic publishing in academic libraries requires a multi-faceted approach that combines establishing clear and comprehensive agreements, engaging in consortia purchasing and resource sharing agreements, Implementing the best practices and standards for digital preservation systems, upgrading all the time to keep pace with the changes in technology, provision of national repository of electronic publications and legislative provisions and educating library staff, researchers, and users about copyright regulation and fair use provisions. By implementing these solutions, libraries can streamline publishing workflows, improve information discovery, foster knowledge sharing, and provide better services to researchers and readers.

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STAKEHOLDER ASSESEMENT OF COLLABORATIVE CONFLICT MANAGEMENT TECHNIQUE IN SECONDARY SCHOOL KADUNA

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Abstract
The study was on the Stakeholder assessment of collaborative conflict management techniques in Secondary Schools in Kadnna State, Nigeria. The researcher developed two objectives which among others to examine Stakeholder assessment of collaborative conflict management techniques in Secondary Schools in Kaduna State between teachers and students for transformation in teaching and learning in Secondary Schools in Kaduna State. Research questions and hypotheses were formulated in line with research objectives. Literatures were reviewed in respect of the research and fundamental concepts were defined in line with the clear authorities. The total population of study was 15557. The total number of 1113 respondents was sampled based on the recommendation of Research Advisor table of sampling (2006). The sampling was made from the four (4) educational zones namely Anchau, Giwa, Rigachikun and Zaria zones. The instrument used for data collection was structured questionnaire. The result revealed that, the Stakeholder assessment of collaborative conflict management techniques helps greatly for the management of prevailing conflict between teachers and principals on transformation of teaching and learning in Secondary Schools in Kaduna State, Nigeria; the Stakeholder assessment of collaborative conflict management techniques in Secondary Schools in Kaduna State helps in the management of prevailing conflict on discipline between teachers and students on the administration of secondary schools in Kaduna State, Nigeria. The study recommended that Principal should ensure a free flow of communication with all staff in his schools. This could be through democratic style of leadership whereby all teachers and other school management should be allowed to express their problems, feelings and give advice on how to resolve issues concerning the school and Teachers should understand individual difference among his students and he/she should view when it comes to classroom activities. He/she should also develop a relationship with their students in secondary schools.

Introduction

Conflict is a normal and natural part of human relationship or interaction. Whenever two or more people interact, conflict becomes inevitable. People will not agree about everything all the time. In and of itself conflict is not necessary negative phenomena when handled constructively it can help people and institutions to stand up for themselves and others, and work together to achieved mutual satisfactory solution. Since relationship, conflicts are unavoidable learning how to managed the conflict is become crucial. When conflict is mismanaged it can harm the relationship. But when conflict is mismanaged it can harm the relationship, but when handled in the appropriate, respectful, and positive way, conflict provides an opportunity for growth ultimately strengthening the bond between the two people/group.

The fact, that there will always be competition for inadequate resources, contradicting value system, psychological needs of group and individuals, manipulation of information and perception, conflict is bound to happened as any of these has potentiality of resulting into either arguments, protests, demonstration, aggression, fight, collusion, struggle, a contest, a menial strife, an agony and other

destructive behaviours. Conflicts can be constructive or destructive. When kept within tolerable limits, conflict can be a source of creativity and performance enhancement. For conflict to be a source of creativity and performance enhancement, authority in charge must learn how to adapt appropriate conflict resolution techniques. Conflict becomes destructive when concern individual in a conflicting zone failed to adapt appropriate conflict resolution techniques, such conflicts become counter-productive, disruptive and unnatural, and produces a deviation from the free flow of events (Nwakpa, 2017).

The nature and types of conflicts and their management techniques that occur in secondary schools vary from one school to another. The common types of conflicts usually occur between the teachers and the principal, between teachers and students, among teachers in schools. Schools communities, undergoing transformation and therefore conflict in education is a common occurrence. In most cases the reason for such conflict is because education officials, teachers and school principals do not understand the new paradigm underlying and driving transformation and cannot adapt their work style accordingly. This may lead to conflict that may become imminent and inevitable (Some, 10).

Management of secondary schools is different from that of enterprises due to its target goal. However, like any other organizations, the school needs means to run efficiently. These means are mainly of human, material, financial, time, legal and technological in nature (NCDC, 2008). The existence of these means is not enough in itself; there is a need to make a rational utilization and combination which fundamentally remains the responsibility of the school head. Management of secondary school is a soul responsibility of school head, known as principal in the context ofNigeria secondary education system. Indeed, school heads today are faced with big challenge not only to know different tools of secondary school management but also to maintain the required professionalism to efficiently handle the available means and resolved conflicts that may arise in the process (NCDC, 2008). The principal maintains school tone and culture that create the climate of social responsibility.

Statement of the Problem

The management of secondary schools is a huge and decide task that require prompt and appropriate attention from the various stakeholders saddled with responsibility whenever any problem surfaced. It is a huge task because of the number of peoples and characteristics in which the tier of this implication of school administrators /Managers action and inaction on the school system and the society at large such implication of conflict management technique in resolving problem at secondary school can be such vividly in our society today.

These conflicts range from issues associated with ineffective communication flows between the principal and the teachers, indiscipline becomes rampant among students which have negative impacts on teachers, problem of interpersonal relationship among teachers in secondary schools, lack of staff motivation/incentives by the ministry of education for teaching and non-teaching personnel, poor management of students programme and services for effective secondary school administration and problem of school and the local community relationship.

The researcher observed that the poor attendant by the government to provide certain motivation to teachers creates dissatisfaction and agitation in secondary school in Kaduna state. The researcher observed the failure of the school management to provide student programme and services which are integral part of the school programme for achievement of educational goals. This is because the school goal achievement indices do not only restricted to teaching and learning program but also others extra-curricular activities within the school system, all the afore mentioned have affected the needed transformation needed in secondary schools in kadunan stale. This are some of the reason.

Stakeholder Assessment of Collaborative Conflict Management Technique in Secondary School

Majority, especially female teachers who are wives of politicians intimidate school principals with their husband positions. Some have personal relationship or conflict with principals. Such teachers are not regular in school and in lessons. They use school period or their personal business and political affairs at the detriment of the students. Most of them do not take active part in extra-curricular activities of the school and are not instructionally effective and efficient. Poor management of disciplinary causes-, of teachers by principals and Ministry of Education officials: Failure to apply rules and regulations effectively and equally leads to conflicts among hardworking teachers (Adeboye, 2011). The formative years are a crucial period in human development. Teachers with poor home background cannot be corrected during professional training period because of the type of curriculum content, type of residential accommodation and the short period of practice before graduation. Bad habits cannot be deleted from young teachers in Nigeria during training as a result of the level of corruption, entry qualification and way of appointment of teachers, since 1979.

The principal's effective leadership is considered to be an important element in school functioning. It is the key to success in creating a vibrant and an innovative environment, and in achieving teaching and learning excellence (Leith-woed, 2001). The principal as head is accountable for the success or failure of the school. For the school to achieve its goal, there must be discipline and commitment to duties to avoid unnecessary conflicts between principals and teachers. At all times, the principal should provide disciplinary control over the behaviour of teachers for higher level of performance. In Kaduna State of recent, school system has come under scrutiny by managers of education due to inability of school principals to effectively, manage conflict among teachers. Indiscipline behaviour that can easily lead to conflict among teachers are: truancy, lateness, absenteeism, non-attendance of lessons, selling of goods during school hours and the likes. The exhibition of these negative attitudes by teachers defeats the goals of education and inhibits the quality of secondary education (Ekpoh), 2007; The Kaduna State government has taken series of proactive actions to contain all forms of conflict in the school system. In 2009, school monitoring team was inaugurated by the commissioner for education to move round schools to oversee the activities of students, teachers and principals. The paramount concern of every school principal is to ensure that teachers are disciplined for the achievement of schools goals through effective conflict management. This requires the knowledge and application of good strategies. Offiong (2002) pointed out that ensuring effective indiscipline in schools depends on the ability of the school principal to intelligently utilize the various approaches of staff discipline, to ensure compliance and good behaviour. The ability to use a particular conflict strategy at the appropriate time and condition is fundamental to effect management of school conflict (Ikoya, 2009), These other strategies are also recommended domination, compromise strategies and efforts from PTA and leaders of the local community.

Stakeholder Assessment of Collaborative Conflict Management Technique in Secondary School

Everybody who has ever gone to school has teachers who stick out in their memory. Some will be remembered as wonderful mentors while others will live forever in student's minds as evil witches. Although, it is perfectly normal for students to disagree with their teachers on a variety of subjects, part of maturing and learning to live in the real world is learning to express a difference of opinion without having a conflict over it (Magaji, 2015). Some students are convinced that their teachers are out to get them. It is these students who often but heads and enter into power struggles with their instructors. Unfortunately, these conflicts, whether they are over grades, Discipline policies, or personality conflicts, can make school a stressful place to be for some students. It is known that confrontations and conflicts can raise stress levels significantly. Making matters worse, these conflicts carry a high stake- because the opposition has the power to affect the student future with their grade. The tension conflicts at school cause can have negative impact on a student's performance at school (Aresh & Webel, 2002). Today, issues at school extend far beyond the "school house gates." Problems and stresses from the home are often carried into the classroom. If the child or teen is unable to effectively cope with the stress, those around them are the first to know. The added stress can be taken out on the wrong person; sometimes the overly stressed individual may snap at

another classmate, or the teacher. In either case the teacher becomes involved. While in their class, the student becomes the teachers' responsibility. If they notice that a student is having an unusually difficult day they should offer some help. But where, and when does a teacher draw the line? Sometimes, no matter how needy, the student refuges assistance, if the teacher is truly concerned they will be persistent. This is where conflicts can occur. The adult is trying to gain controlby appling into the problems of the teen. Often times, this scares the teen even more, and causes more problems. As common as this scenario is, there is one other source of conflict between teachers and their students that is generally overlooked. The teachers are human, too, and also experience high levels of stress. When they are unable to leave their stress outside the classroom doors they can transfer their stress to their students the same way the students do to them. "When the teacher herself is stressed and anxious, some of that anxiety can trickle down to the children." (Youngs) Since many teens look up to their teachers as role models and mentors, watching how their elders deal with stress serves as a template for their own stress reduction methods. As teens enter their junior and senior years of Secondary school another conflict can occur as well. Around the ages of 16 or 17"students feels a sense of independence and does not want adults to make decisions for them (Youngs) Therefore, disagreements can emerge from the testing of authority on the part of the teens. The teacher, in response will be stricter with the student to make sure the student knows who the boss is. Students who continuously have conflicts with their teachers not only need assistance solving the argument, but the deep - rooted source of the conflict, too. The major effect .of repeated conflict with teachers is the inability or unwillingness for the student to learn. One would therefore expect the student's academic performance to drop as the frequency of such conflict increase.

This study has the following objectives:

1. Examine Application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State.
2. Determine Application of Collaborative Conflict Management Technique to the Management of Conflicts between Teachers and students for transformation in teaching and learning in Secondary Schools in Kaduna State.

Research Questions

The following research questions were raised in order to guide the study:

1. How does the application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers lead to the transformation in teaching and learning in Secondary Schools in Kaduna State.
2. To what extent does the application of Collaborative Conflict Management Technique to the Management of Conflicts between Teachers and students bring transformation to teaching and learning in Secondary Schools in Kaduna State.

Hypotheses

In line with research questions, the following hypotheses were formulated for the study which will be tested at alpha level 0.05:

HO1: There is no significant difference in the opinions of respondents on Stakeholder Assessment of Collaborative Conflict Management Technique in Secondary School, Kaduna State.

HO2: There is no significant difference in the opinions of the respondents on the Stakeholder Assessment of Collaborative Conflict Management Technique between Teachers and students for transformation in teaching and learning in Secondary Schools in Kaduna State.

Research Methodology

This study is a descriptive survey research. It is a descriptive survey research because it is based principally on the views of the respondents in the population of study. The research design permits the gathering of

information through the use of questionnaire and/or interview from a population based on appropriate sampling techniques. This research therefore used self structured questionnaire to solicit responses from the respondents. This agreed with the opinion of Mustapha (2000) that survey research is a technique in research where the desired characteristic of a given population is systematically examined.

Population of the Study

The population of this study consists of all government secondary schools principals, teachers' parent/teachers association executives and officials of Kaduna State Ministry of Education designated at the twelve state educational zones across the Kaduna State.

The total number of research population was fifteen thousand five hundred and fifty seven (15,557) comprised five hundred and twenty five (525) principals, three hundred and fourty four (344) MOA officials (inspectors), nine thousand one hundred and seventy nine(9179) teachers, and five thousand five hundred and nine (5509) PTA Excos. Table 3.1 present the total population of the study from the (12) twelve educational zones of Kaduna State.

Table 1: Population of the Study

This table contains the population of the study which consists of the total number of schools in the study area, total number of principals, inspectors, teachers and PTA Excos.

S/N	Educational Zones	No. of Schools	No. of Principals	No. of Inspectors	No. of Teachers	No. of PTA Executives
1.	Anchau	34	34	16	430	374
2.	Birnin Gwari	21	21	12	254	291
3.	Giwa	34	34	20	587	374
4.	Gogo Godo	36	36	15	602	396
5.	Kachia	56	56	32	763	616
6.	Kaduna	46	46	42	1075	506
7.	Kafanchan	54	54	38	976	594
8.	Lere	38	38	26	597	114
9.	Rigachukun	30	30	23	563	330
10.	Sabon Tasha	" 66	66	36	1219	726
11.	Zonkuwa	51	51	29	999	561
12.	Zaria	57	57	55	1114	627
Total	**12**	**525**	**525**	**344**	**9179**	**5509**

Source: Ministry of Education Kaduna State 2018. See appendix 3

Sample and Sampling Techniques

In selecting the sample size of the study, thirty percent of the twelve educational zones (30%) was adopted as agreed by Aderemu (1986). Simple random sampling was used to select four educational zones which include Anchau, Giwa. Rigachikun, Zaria.

In selection of the sample size of the respondents, the researcher used Research Advisor Table of Sampling (2006). In selection of principals, the table recommended that for population of 300 - 500 at 95% confidential level and 5% margin error, the sample size of 217 respondents could be used. This type of sampling technique was also applied in selection of other categories of respondents.

In selection of inspectors, the table recommends that for population of 300 - 400 at 95% confidential level and 5% margin error, sample size of 169 respondents were used. In selection of teachers, the table recommends that for population of 7500 - 10,000 at 95% confidential level and 5% margin error, sample size of 370 respondents could be used. However, in selection of PTA Excos, the table recommends that for population of 5000 - 7500 at 95% confidential level and 5% margin error, the sample of 357 respondents could be used. The table below shows the details of population distribution of respondents and sample size.

Table 2: Table of Sample
This table explains the total number of the population of respondents as well as the sample size selected for the study

S/N	Categories of Respondents	Population	Sample Size
1	Principals	525	217
2	Supervisors	344	169
3	Teachers	9179	370
4.	PTA Excos	5509	357
	Total	**15557**	**1113**

Sources: Research Advisor's Table (2006) see appendix 4

The table above shows that out of 15,557 populations of principals, supervisors, teachers and PTA Excos, 357 n0- were selected through the use of Research Advisor Table of Sampling (2006). In all, the sampled population of the study is one thousand one hundred and twenty- seven (1127). Simple random sampling technique was used in obtaining sample of principals, inspectors and PTA Excos from each of the selected Education Zones.

Method for Data Analysis
The data collected through the questionnaire was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics frequency and simple percentage was used to analyze the bio-data of the respondents, while weighted mean of 3.0 was used to analyse responses of the respondents to the research questions. However, inferential statistics of the F- test One -Way Analysis of Variance (ANOVA) at 0.05 levels of significant was used to test the two (2) postulated hypotheses of the study in order to determine whether or not to retain the respective null hypotheses.

Data Presentation and Analysis
In answering research questions, a score of 3.0 and above was set as the benchmark or agree. In the test of null hypotheses, one way analysis of variance (ANOVA) was used to determine the homogeneity of the responses given by the respondents (principal, teachers and supervisor) at 0.05 levels of significance. The test of hypotheses was carried out using one way Analysis of variance (ANOVA). This was determined at 0.05 level of significant and statistical package for social sciences (SPSS) was used to analyze the data.

Test of Hypotheses
This section presents hypotheses testing in line with raised objectives and null hypotheses of the study. The parametric statistics of Analysis of Variance (ANOVA) was used to test significant difference among the respondents i.e. teachers, principals, Inspectors and SBMC officials at 0.05 significant level. Six hypotheses were formulated and tested. Hypothesis was retained when the probability value was more than

0.05 level of significant while hypothesis was rejected when the probability value was below the stated level of significance.

Hypothesis 1
There is no significant difference in the opinions of respondents on Application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State.

One Way Analysis of Variance (ANOVA) was used to determine whether there was significant differences or otherwise in opinions of respondents on the data collected for items 1-10 in the questionnaire. As such, all the items were analyzed and presented in table 3.

Table 3: Summary of One-Way-analysis of variance on the Application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State

Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	0.08705	*n*	0.029	0.221	0.880	2.866
Within Groups	4.71486	36	0.130			
Total	**4.80191**	**39**	*			

From table 3, the result of the tested hypothesis revealed that the f-ratio value (0.221) at 3 df 36 and at the level 0.05; the critical value (2.86) is greater than f-ratio values (0.221), the observed probability level of significance P (0.880) is greater than 0.05 level of significant. Thus, the null hypothesis is hereby retained. It is therefore conclude that there is no significant difference in the opinions of respondents on Application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State.

Hypothesis 2
There is no significant difference in the opinions of respondents on Application of Collaborative Conflict Management Technique to the Management of Conflicts between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State
The One Way Analysis of Variance was used to determine whether there were significant differences or otherwise in opinions of respondents on the data collected for items 11-20 in the questionnaire. As such, all the items were analyzed and presented in table 4:

Table 4: Summary of One-Way-Analysis of variance on the Stakeholder Assessment of Collaborative Conflict Management Technique between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State

Source of Variation	**SS**	**Df**	**MS**	**F**	**P-value**	**F crit**
Between Groups Within	0.14902	o	0.049			
Groups	6.72534	J	0.186	0.2658	0.849	2.866
		36				
Total	**6.87436**	**39**				

From table 4, the result of the tested hypothesis revealed that the f-ratio value (0.265) at 3 df 36 and at the level 0.05; the critical value (2.866) is greater than f-ratio values (0.265), the observed probability level of

significance P(0.849) is greater than 0.05 level of significant. This means that There is no significant difference in the opinions of respondents on Stakeholder Assessment of Collaborative Conflict Management Technique between Principals and Teachers for transformation in teaching and learning in Secondary Schools in Kaduna State.

Summary of Major Findings

The following findings were revealed:

1. The Stakeholder Assessment of Collaborative Conflict Management Technique such as Effective communication flow, Intervention of the third party, Collaboration, Dialogue, Reconciliation, negotiation among others helps greatly for the management of prevailing conflict between teachers and principals on transformation of teaching and learning in Secondary Schools in Kaduna State, Nigeria.
2. The Stakeholder Assessment of Collaborative Conflict Management Technique such as Effective communication, good interpersonal relationship, mutual respect, extra-curricular activities, justice and fairness, warning, control of punishment and interaction among others helps in the management of prevailing conflict on discipline between teachers and students on the administration of secondary schools in Kaduna State, Nigeria.

Discussion of Finding

Based on the opinions of the respondents, the findings of the study revealed that the use of collaborative conflict management techniques such as effective communication flow, Intervention of the third party, collaboration, dialogue, reconciliation, negotiation among others helps in management of prevailing conflict on communication between teachers and principals in Secondary Schools in Kaduna State, thereby enabling conducive environment, harmonious working condition and effective communication flow as well as respect of one's own culture wall help in managing conflict between teachers and principal. This is evident as 81.56% principals, 91.71% inspectors, 94.36% teachers and 69.47 PTA Excos support this view. This finding is in line with Nwosu (2017) carried out a research title "Principal Communication Strategies and Teachers Job Performance in Public Secondary Schools in Ikenne Local Government Area of Ogun State. Job performance was accounted for by the principals' communication strategies. A positive significant relationship was found between principals' communication strategies and teachers' job performance in secondary school. The paper concluded that teachers' job performance to a large extent depends on factors like the principals' communication strategies and resources. Communication flow as well as respect of one's own culture will help in managing conflict between teachers and principal.

The study also found that Stakeholder Assessment of Collaborative Conflict Management Technique helps in effective management of prevailing conflict between teachers and students in secondary schools in Kaduna State, Nigeria. However, it was also found that application of collaborative conflict management techniques helps in effective management of prevailing conflict techniques for management of conflict among teachers in secondary schools, Kaduna State.

Recommendations

Based on the findings and conclusions of the study, the following recommendations were made:

1. Principal should ensure a free flow of communication with all staff in his schools. This could be through democratic style of leadership whereby all teachers and other school management should be allowed to express their problems, feelings and give advice on how to resolve issues concerning the school. If there is any misunderstanding or conflict between the principal and the teachers, the principal should ensure that he tackle the case collaboratively.
2. Teachers should understand individual difference among his students and he/she should respect their personal view when it comes to classroom activities. He/she should a so develop and respect interpersonal relationship with their students in secondary schools as this will reduce if not eliminates conflict between teachers and students in secondary schools of Kaduna state. This will help in minimizing the level of conflict between students and teachers respectively.

The finding of the study also revealed that the application of collaborative conflict management techniques such as effective communication, good interpersonal relationship, mutual respect, Extra Curricular activities, justice and fairness, warning, control of punishment and interaction among others helps in the management of prevailing conflict on discipl ne between teachers and students for transformation in teacher and learning in Secondary Schools in Kaduna State. This finding is ascertained considering that about 87.45% principals, 68.05% inspectors, 78.81% teachers and 87.55% PTA Excos are in support of this view. It is a general fact that conflict among group of people is unavoidable. However, it was found that collaborative conflict management technique helps in management of prevailing conflict on discipline between teachers and students thereby establishing high performance of students; utilization of time schedules for events, high enrolment of students and teacher-students interaction for maximum output in school. This finding is in line with Besong (2015) who conducted a research titled: comparative study of effectiveness in maintenance of discipline among administrators of private and public secondary school in South-West Region, Cameroon. The finding shows that private secondary school administrators were more effective in maintaining discipline than their counterparts in public secondary schools, while in some situations the public had an edge over the private, but in some strategies they did not differ.

Conclusion

The study has the following conclusions:

Stakeholder Assessment of Collaborative Conflict Management Technique helps in effective management of prevailing conflict on communication between teachers and principals in secondary schools in Kaduna State, Nigeria thereby enabling conducive learning environment, thereby enabling conducive environment, harmonious working condition and effective.

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LEARNING FACILITIES FOR ENTREPRENEURIAL EDUCATION OF LIBRARY AND INFORMATION SCIENCE STUDENTS IN THE UNIVERSITIES IN NORTHERN STATES OF NIGERIA

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Abstract
This study examines the significance of teaching and learning facilities in fostering entrepreneurial education among Library and Information Science (LIS) students in universities. As the field of LIS evolves and embraces a more entrepreneurial mindset, it is essential to equip students with the necessary skills and knowledge to thrive in an increasingly competitive and dynamic information landscape. This study identifies various teaching and learning facilities that can effectively cultivate entrepreneurial competence among LIS students. The study identifies several key factors that contribute to the development of entrepreneurial competence in LIS students, including practical hands-on experiences, access to cutting-edge technology, mentorship programs, interdisciplinary collaboration, and experiential learning opportunities. These factors enable students to acquire critical skills such as innovation, problem-solving, business acumen, and adaptability. Moreover, the study highlights the role of university libraries as ideal platforms for providing these teaching and learning facilities. University libraries can serve as innovation hubs, offering spaces for entrepreneurial activities, access to emerging technologies, and resources that support the development of entrepreneurial projects. Collaborations between LIS faculty, library professionals, and industry experts play a vital role in shaping the curriculum, designing entrepreneurship programs, and providing mentorship to students. The study also emphasizes the importance of integrating entrepreneurial education within the LIS curriculum, ensuring that students are exposed to business concepts, market analysis, intellectual property, and marketing strategies. Additionally, interdisciplinary approaches that encourage collaboration with other departments, such as business schools or engineering programs, can foster a more holistic understanding of entrepreneurship.

Keywords: Entrepreneur, Facilities, Teaching, Learning, skills, Library and Information Science.

Introduction

Education is a veritable tool for enhancing economic growth and national development. Education is also the cornerstone of development because it forms the basis of literacy, skill acquisition, technological advancement, knowledge acquisition and ability to harness the natural resources of the environment and breed competence (Okoro, 2014). Antai and Anam (2009) asserted that education creates better citizens and helps to upgrade the general standard of living in society. The education sector in any country is critical because education supplies the skilled human resources needed for the achievement of national economic goals and objectives. In the view of Adeogun (2003), education is a major instrument for tackling

unemployment, poverty, and ignorance. According to the National Policy on Education (2004), the cardinal aim of education includes "the development of the intellectual capacity of individuals to understand and appreciate their environment and the acquisition of both physical and intellectual skills which will enable individuals to develop into useful members of the community." This objective of education is laudable and could be attained in the universities, through appropriate quality education and research.

University is an institution of higher education and research. It grants academic degrees in a variety of subjects and provides both undergraduate and postgraduate education. One of the objectives of tertiary institutions, according to the National Policy on Education (2004), includes: "acquiring both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society." Unemployment among graduates has remained one of the fundamental challenges threatening the economic development and stability of Nigeria with some serious socio-economic consequences, and imposes socio-economic costs, and a waste of human resources and the investment in education and training (Eneji, Mai-lafia, & Weiping, 2013). According to Akinyemi, Ofem, and Ikuenomore, (2012), the issue of graduate unemployment in Nigeria has become a national concern as the unemployed youths tend to be more anxious, depressed and unhappy with their attendant sleeplessness than those with jobs. This situation has not only posed a great challenge to the economy but also retarded the economic growth of the country. The graduate unemployment in Nigeria is attributable to the fact that employees' education and skills acquired are inadequate to meet the demands of modern-day jobs (Akinyemi et al., 2012).

Literature Review

Entrepreneurial competencies are essential for stimulating entrepreneurial activity and are recognized as a driving force and source of innovation and competitive advantage (Rae, 2007). Entrepreneurial competencies are a cluster of related entrepreneurial knowledge, skills and personality traits that can lead to the production and accomplishment of outstanding performance or maximizing profits (Man, Lau & Chan 2002). Bird (1995) defined entrepreneurial competencies as the underlying characteristics of an individual, which include both general and specific prior knowledge, intention, personality traits, self-branding, social role, and skills, which results in new ventures, survival and growth. These competencies are further demonstrated by individuals as entrepreneurs who can manipulate resources and opportunities, which can increase an organizations' profitability.

Maifata and Mohammed (2016) revealed that Library and Information Science graduates in Nigeria lack entrepreneurial skills due to inadequate funding of entrepreneurship education programme, insufficient teaching gadgets for practical–oriented training, and emphasis on theoretical knowledge rather than practical skills. Entrepreneurship education is not only important to develop entrepreneurship and self-employment but also to enrich young people with the attitudes and characteristics necessary to manage the uncertain environment of self-employment (Stamboulis & Barlas, 2014).

Entrepreneurial competence is the necessary skill an individual need to run a successive business, add value to work and be self-employed. The entrepreneurship competence and skills includes communication skills, creative/innovative skills, decision-making skills, problem-solving skills, planning and organizing skills, risk management skills, self-management skills, technological/technical skills, teamwork skills, learning skills, initiative skills, enterprise skills, financial skills, managerial skills, marketing/saleable skills, interpersonal relationship skills, integrity skills, practical skills, assertiveness skills, leadership skills, listening skills, openness to change and business identification skills (Oliveira, 2008). University graduates need these employability skills and competence to be able to work in public and private business enterprises. They make it possible for prospective graduates to be entrepreneurs in private business enterprises and also to be self-reliant. Competences developed as a result of entrepreneurship education should lead to self-employment, employment generation, economic self-sufficiency, business survival or growth (Kirby 2004; Wennekers &Thurik 1999).

Teaching and learning facilities make learning more pleasant to the students because they offer a reality of experience, which stimulates self-activity and imagination on the part of the students. They also supply a concrete basis for conceptual thinking and hence, reduce meaningless word responses from students (Nyamubi, 2003) cited in Naisujaki, Jackson, and Kirui (2017). Likewise, Campbell (1999) agreed that Instructional materials enhance the teaching/learning process by exhibiting information necessary to acquire knowledge and skills.Teaching facilities include materials and equipment that comprises laboratory equipment, technological equipment, puzzles, television, radio VCD plates and players, piano, chalkboard, cardboards, duster, apparatus for science practical, models, picture charts (Osuji, 2016). According to Osuji (2016), Learning facilities are those materials that can easily enhance active learning in the school such as computer, library, Internet/ICT, practical workshop, microscope, projectors, video CD player, textbook, stationeries, and exercise book.

Teaching and learning are inherent processes in our lives that bring the achievements and failures shaping our personalities (Kozlinska, 2016). Humans are being taught and start learning in early childhood through guidance from their elders and their own experiences alike. Learning is a complex lifelong process of acquiring new or reinforcing existing knowledge, skills, attitudes, behaviours, values, or preferences (Hoy, Davis & Anderman 2013; Schacter, Gilbert & Wegner 2009). Teaching, in turn, is an intentional activity aimed at bringing about learning by imparting those competencies, behaviours, values, etc. from a teacher to a learner (Kozlinska, 2016). It can take the form of standard instruction, training, coaching or consultancy, facilitation or mentoring depending on the epistemological position implicitly or explicitly accepted as a basis (Müller &Diensberg 2011; Kyrö 2005; Hirst 1971).

Teaching and learning facilities are fundamentals for the effective delivery of a job creation curriculum (Okebukola, 2014). The Nigerian educational system from primary to tertiary level is characterised by acute shortage of quality teaching and learning facilities in the right quantity, and at the university level, the findings of the 2012 needs assessment survey are particularly revealing were the severe shortage of classrooms, hostels, offices, libraries, laboratories and workshops for effective delivery of university education was documented (Okebukola, 2014). Teaching and learning facilities and infrastructure at school have a positive influence on the effectiveness of the teachers' teaching and students learning (Earthman, 2002). Effective teaching and learning facilities lead to the improvement of students' learning achievement and skills/competency development (Ejiru, 2011). According to Ekpor (2018), A positive learning environment will support students' learning activities, skills acquisition and competency development. Teaching facilities that support learning activities also have an impact on students learning achievement and competence (Khoirudin, Hary & Aji, 2016).

Teaching and Learning Facilities

Literature is abundant which attempts to relate the concepts of teaching and learning facilities and eventually on their overall influence on students and effective curriculum implementation (Coleman &Anderson 2001; Orodho, 2014; Orodho, Waweru, Ndichu & Nthinguri,2013; Sherman, Bohlander & Nell, 1996; Woodford, Jackson, Gillard, Cranz, & Glennonn,2003). Orodho et al., (2013) established that the challenges of availability and adequacy of learning facilities were found to negatively affect teacher effectiveness in the use of teaching methods as well as focus on individual learners, hence fostering discipline and excellent attainment of academic results. Ejiogu and Nwajiuba (2012) say that in the education area, resources fall into two main categories: those used to provide support services such as the running costs of the buildings, administration and management, and those for the operational core of teaching and learning like physical or tangible resources. Teaching facilities include materials and equipment, that comprises laboratory equipment, technological equipment, wall clocks, puzzles, television, radio V.CD plates and players, piano, chalkboard, cardboards, duster, apparatus for science practical, models, picture charts (Osuji, 2016). According to Osuji (2016), Learning facilities are those materials that can easily enhance active learning in the school such as computer, library, Internet/ICT, practical

workshop, microscope, projectors, video CD player, textbook, stationeries, and exercise book. Learning facilities play significant roles in the teaching and learning process (Agwu, 2013).

NCERT (2005) argued that teaching and learning facilities appear in three types. The first type of instructional material includes such objects and phenomena as minerals, rocks, raw materials, semi-finished and finished manufactured articles, and plant and animal specimens. Included among these materials are reagents and apparatus for producing chemical and other reactions and for demonstrating and studying such results during laboratory sessions. Also included in the first group are materials and equipment for students' expeditions and other travel, as well as supplies, instruments, and equipment for production training and courses in drafting and the representational arts. Among such supplies, tools, and equipment are wood, metal, plastic, and glass objects, measuring and monitoring devices and equipment, equipment for the assembling and finishing of various products, and machines, and machine tools. The second type of educational materials, that of representations of actual objects and phenomena, NCERT (2005) goes on to say that this category includes three-dimensional materials (castings, globes, and experimental models), two-dimensional materials (charts, pictures, photographs, maps, diagrams, and drawings), and audio-visual materials (motion pictures, film clips, filmstrips, slide sequences, transparencies, records and tape recordings, and radio and television broadcasts). Audio-visual materials, including the resources of films, radio, and television, help acquaint students with the achievements of modern science, technology, industry, and culture and with phenomena that are inaccessible to direct observation. Audio-visual materials also familiarize students with early periods of history and with distant places in the world and space. Such materials elucidate natural and social phenomena and enable students to study the inner world of matter and the internal motion of waves, elementary particles, atoms, molecules, and living cells.

The third type of instructional materials that of written descriptions includes scientific, scholarly, reference, and methodological teaching aids, as well as textbooks, books of problems and exercises, books for recording scientific observations, laboratory manuals, manuals for production training, and programmed handbooks (NCERT, 2005). Another type of instructional material is technological instructional media. Among these is equipment for the transmission and assimilation of information recorded on film or phonograph recordings: film projectors, tape recorders, phonographs, and television sets. Monitoring devices include punched cards and various types of automatic apparatus. Teaching machines include language-laboratory machines, closed-circuit television systems, and computers (NCERT, 2005).

Concerning the effects of resource availability on students' content delivery, teaching and learning resource availability helps teachers teach effectively in convenient and comfortable surroundings. The lack of physical resources inevitably hampers the teaching; depress the spirit of the learners and the enthusiasm of the teachers. The availability of teaching and learning facilities, therefore, enhances the effectiveness of schools as they are the necessary resources that bring about excellent academic performance in the students (Okongo, Ngao, Rop, & Nyongesa, 2018). The accessibility of school facilities (for example, classroom, accommodation, libraries, laboratories, and other instructional materials) is a state not only contributes to academic achievement in the school educational system, but also a plus to teachers as it shows the level of ingenuity and commitment of teachers toward effective delivery of the lesson. Teaching and learning facilities make learning more pleasant to the students because they offer a reality of experience, which stimulates self-activity and imagination on the part of the students.

Furthermore, Graham (1991) emphasized that education programmes cannot succeed without adequate facilities like the classroom, libraries, laboratories, technologies, to name just a few. He goes on to say that scientific laboratories and workshops need to be well equipped and supplied with consumables, and provision must be made for proper maintenance of buildings and equipment. Institutions should operate with well-stocked and up-to-date libraries that have sufficient study space and that cater to the teaching and research needs of the various academic departments.

Ekpor (2018), reiterated that where the facilities are inadequate, teachers will not be satisfied, and this will adversely affect their service delivery in the school system. Hence the students stand to suffer as they will be given inadequate education. In essence, both teachers and students cannot work effectively without adequate physical facilities. Owuamanam (2005) pointed out that the inadequacy of the necessary infrastructure has been a significant problem facing the Nigerian educational system in the past two decades. This is noticeable in the gross deficiency of teaching materials, office and lecture spaces, lack of current books in the libraries, lack of ICT facilities and poorly equipped laboratories. In a study by Ahmed (2003), it was found that in most schools in Nigeria, teaching, and learning take place under a most non-conducive environment, lacking basic amenities and thus hindered the fulfilment of educational objectives. If the facilities are inadequate or dysfunctional, the learning process would be impaired, a, d academic productivity will decrease.

Teachers' satisfaction with the physical working environment implies that they are happy with the facilities that are provided and that the available facilities are adequate for their service delivery. Emah (as cited in Ekpoh, 2003), inadequate teaching facilities affect teachers' satisfaction on job performance and productivity. The satisfaction of students with their educational facilities is an essential tool to assess the quality of teaching and institutional effectiveness (Hussain, Jabbar, Hussain, Rehman & Saghir, 2014). The higher the level of satisfaction, the higher will be the level of students' skill development, course knowledge, and mentality (Malik, Danish & Usman, 2009). The success of any educational institution depends on the satisfaction of their students, particularly with the facilities provided by such an institution. Because students are the most critical stakeholders, and the primary consumers of the facilities in educational institutions and the satisfaction of all other stakeholders are dependent on the satisfaction of students (Khan, Ahmed & Nawaz, 2011; Marimuthu & Ismail, 2012). Bassey and Bassey (2008) observed that when teachers perceive a high level of resource availability and utilization in school, they will also tend to see a high level of teacher-job-efficiency in all aspects of school life, including actual teaching, service delivery, motivational ability and preparedness in subject matter field. Awobodu (2000), noted that teacher utilization of appropriate equipment, materials, and tools in teaching facilitates learning and enhances students' achievement.

Conclusion

In conclusion, the provision of effective teaching and learning facilities is vital for nurturing entrepreneurial competence among Library and Information Science (LIS) students in universities. By equipping students with practical experiences, access to cutting-edge technology, mentorship programs, interdisciplinary collaboration, and experiential learning opportunities, universities can empower LIS students to become entrepreneurial professionals capable of thriving in the dynamic information landscape. The integration of entrepreneurship education within the LIS curriculum, along with the active involvement of university libraries and collaborations with industry experts, further enhances the development of entrepreneurial competence. Moreover, providing appropriate teaching and learning facilities is crucial for cultivating entrepreneurial competence among LIS students. By embracing innovative pedagogies, incorporating practical experiences, and fostering interdisciplinary collaborations, universities can empower LIS students with the skills and mindset necessary for success in a rapidly evolving information landscape. This abstract calls for increased attention to the development and implementation of teaching and learning facilities that nurture entrepreneurial competence among LIS students in universities.

Suggestions/Way forward

The following way forwards were proffered:

1. The University management in collaboration with library schools should reinforce and redesign the curriculum of all the courses that train the students on different entrepreneurial competence, so that the students can have better competence to rely on themselves after graduation.
2. The library school and the lecturers concern should enhance practical experiences and incorporate practical components such as internships, entrepreneurial projects, and real-world case studies into

the LIS curriculum. These experiences provide students with hands-on opportunities to apply entrepreneurial principles and develop critical skills.

3. The library school and the lecturers concern should create innovation hubs within university libraries and establish dedicated spaces within libraries that serve as innovation hubs, equipped with emerging technologies and resources to support entrepreneurial activities. These hubs can foster creativity, collaboration, and experimentation among LIS students.

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APPLICATION OF INTERPERSONAL COMMUNICATION SKILLS FOR INFORMATION SERVICE PROVISIONS BY REFERENCE LIBRARIANS IN KASHIM IBRAHIM LIBRARY, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

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Abstract
The study as on the application of Interpersonal Communication Skills for Information Service Provision by Reference Librarians in Kashim Ibrahim Library, Ahmadu Bello University, Zaria, Nigeria. The objectives of the study as to find out to identify the patterns of interpersonal communal skill among reference librarians and to find out the interpersonal communication skills utilize by reference librarians for information services provisions in Kashim Ibrahim Library ABU. Quantitative research methodology was adopted using cross-sectional survey research design. The target population of the study consisted of all the 18 reference librarians in Kashim Ibrahim Library ABU Zaria. The instrument for data collection was questionnaire. Data collected were descriptively analysed using frequency tables, simple percentages, mean and standard deviation. The findings of the study revealed that ability to speak fluently to users and ability to understand users queries are the major patterns of interpersonal communication skills among reference librarians in Kashim Ibrahim Library, ability to speak fluently to users and ability to understand users queries are major interpersonal communication skills utilized by reference librarians for information services provisions, the librarians listening skills helps them in understanding users query in Kashim Ibrahim Library ABU Zaria. It could be concluded that interpersonal communication skills exists between reference librarians and library users in Kashim Ibrahim Library ABU Zaria for Information Service provisions but it is not very effective and this could be one of the reasons for the decline in reference patronage in Kashim Ibrahim Library ABU Zaria. It was recommended that reference librarians should improve on their ability to speak fluently to users, ability to understand users' queries, ability to ask users relevant questions concerning their needs, ability to guide users properly after listening to their queries and ability to serve users with the right information. Reference librarians should utilize the ability to send users answers to their query using appropriate channel, ability to receive and treat users query effectively and ability to provide good listening ears to users.

Keywords: Application, Interpersonal Communication Skills, Information Service Provisions, Reference Librarians.

Introduction

Information services are central tasks of any standard library and information center and are primarily one of the services of the reference librarians irrespective of the type of library and information center. The library clienteles are the hub of information service. However, the reference librarian and the clientele belong to different communities. The process which integrates the duo and makes information service happen is interpersonal communication (Kemoni, 2014). When the user expresses his/her needs, the reference librarian considers what resources to use to meet them because the reference librarian serves as an intermediary between the library collection and the library user and this can only be feasible through effective interpersonal communication in reference transactions.

Interpersonal communication involves sending and receiving of messages between two or more people. DeFleur and Dennis (2012) conceptualized interpersonal communication as a process of using language and non-verbal cues to send and receive messages between individuals that are intended to arouse particular kinds of meaning. Interpersonal communication is the procedure by which people swap information,

feelings and impart through verbal and non-verbal messages. This definition underlines the crucial fact that interpersonal communication is not only apprehensive about „what" i s p r o n o u n c e d , i . e . , t h e l a n g u a g e employed, but „how" i t i s pr onounc ed, e . g. , t he no nv er bal me ssa ges sent , suc h as t one of v oi c e and f a c i al expressions. Abdurrahman (2021) stressed that interpersonal communication usually occurs when an individual communicate one a one-on-one basis usually in an informal, unstructured setting, mostly between two individuals, though it may include more than two.

Interpersonal communication can be media mediated or take place face to face between the librarian and the library user. Media mediation in reference service has been branded as mediated communication. Mediated communication is viewed as a situation where a technological medium is employed into face to face interaction. Telephone conversations, letters, electronic mail, instant messages, multimedia messages, faxes, etc. are modes of interpersonal mediated communication. The application of these technologies in reference interaction has impacted greatly on relationships and made face to face contact dispensable. It is common knowledge that the non-verbal aspects of communication are often more important than the verbal. That is, what is said is less important than how it is said. The reason for this is that the non-verbal techniques indicate exactly what interpretation should be put on the words that are uttered.

An effective interpersonal communication enhances the quality of services rendered to clients by the reference librarian. For reference librarian to effectively meet the information needs of its clients, effective interpersonal communication is needed. It is most important and relevant to librarians and workers whose basic instrument and stock-in-trade rests on continuous exchange of information with their clientele. Effective interpersonal communication between reference librarian and library patrons is one of the most important elements for improving user satisfaction (Ojomo, 2014).

Statement of the Problem

Interpersonal communication encompasses many kinds of relationships from the most casual to the most long-lasting, Good interpersonal communication in reference section creates good relationship between patron and reference librarians, it makes the patrons feel free to express their feelings and their information needs to reference librarian for anticipation. Despite the relative assistance reference librarians render to library users, the preliminary investigation carried out by the researcher in Kashim Ibrahim Library shows that there is low patronage in the libraries based on the statistics and report taking on daily, weekly and monthly basis of users in the reference section. Could it be is as a result of lack of ability to effectively communicate with the users or it could be is as a result of pattern of communication between the two parties involved i.e the reference librarian and the library user. It is based on this assertion that the researcher carried out study on Application of Interpersonal Communication Skills for Information Service Provisions by Reference Librarians in Kashim Ibrahim Library, Ahmadu Bello University Zaria, Nigeria.

Objectives of the Study

The following objectives guided this study:

1. To identify the patterns of interpersonal communal skill among reference librarians in Kashim Ibrahim Library ABU.
2. To find out the interpersonal communication skills utilize by reference librarians for information services provisions in Kashim Ibrahim Library ABU.

Literature Review

Interpersonal communication is usually defined by communication scholars in numerous ways, usually describing participants who are dependent upon one another. It can involve one on one conversations or individuals interacting with many people within a society. It helps us understand how and why people behave and communicate in different ways to construct and negotiate a social reality. While interpersonal communication can be defined as its own area of study, it also occurs within other contexts like groups and organizations. Interpersonal communication is the process that we use to communicate our ideas, thoughts, and feelings to another person.

Reference librarian perform various duties, these duties have impact on interpersonal communication for information services provision. Relationships thrive on the maintenance of a good communication link between the parties involved, the reference librarian is expected to be a good communicator who links library users to the resources of their choice. The essence of reference work is personal service. The primary function of the reference department as observed by Nwalo (2010) among other things is answering reference questions and user education and this can only be achieved or performed effectively through interpersonal communication between the reference librarian and the library user through the use of appropriate skills expected as professionals. Rothwell (2014) notes that communication skills are critical to landing a job, receiving a promotion and performing effectively in the workplace. Skill in interpersonal communication is one of the factors that distinguish a reference librarian. In general, Interpersonal communication serves as a process of establishing relationship. It connects people and their social activities and providing a manner consistent with a bond. In this, it connects people closer to each other who sometimes seem to be away from each other.

Interpersonal communication skills are set of abilities, attitudes and values that enable reference librarians to work efficiently, be good communicators and survive in the new world of work (Haddow, 2013). These skills are further described as the basic tools for creating and nurturing an environment of mutual respect and trust. It is also noted that a major component of reference work involves direct service to and interaction with patrons. As stressed by Saunders (2012), interpersonal communication skills as well as the ability to build relationships through active listening and inquiring is essential when offering a reference service. Saunders also noted that as reference services move online, interpersonal and communication skills are very important since librarians are communicating with patrons in many different ways and often without the support of nonverbal cues.

Obite (2021) in Kolle (2014) identified the following as vital interpersonal skills that reference librarians should possess which includes: ability to work with people, social poise, self- assurance and confidence, exhibit self-control and been tactful, ability to make decision, maintaining high standard of professionalism, been honest and objective, organize time and priorities, be persuasive and create enthusiasm and have a high concern for communication. Thus, having good interpersonal communication skills of listening, speaking, reading and writing cannot be over emphasized for the reference librarian. To effectively serve users, a reference librarian must possess and exercise these skills maximally.

Methodology

A cross-sectional survey research design was used in conducting the study. The cross-sectional survey design is found suitable due to the nature of the research which is quantitative in nature with a population of all librarians in reference section of Kashim Ibrahim ABU Zaria and is eighteen (18) in numbers, and all are used, therefore no sample technique was used. The questionnaire was used as an instrument for data collection for this study; the instrument was subjected to face and content validity from supervisors and research experts to determine the suitability of the instrument. The instrument is a self-designed in line with the major variables raised in the research objectives. It was designed in two sections; A for the background information and B for the questions related to the variables raised in the research questions. Descriptive statistics such as percentage, mean, standard deviation was used for the analysis of the data collected for the study.

Result and Discussion

Response Rate

A total of eighteen copies of the questionnaire were distributed to the respondents in Kashim Ibrahim Library. Out of the eighteen questionnaires distributed, eleven (11) representing 66.1% were duly filled, returned, examined and found fit for analysis. The analysis in this study is therefore based on the 11 retrieved questionnaires.

Patterns of Interpersonal Communication Skills among Reference Librarians

The Patterns of Interpersonal Communication Skills among Reference Librarians in Kashim Ibrahim Library are presented in Table 4.1

Patterns of Interpersonal Communication Skills among Reference Librarians

S/N	Patterns of interpersonal communication skills	Frequency	Percentage
1	Ability to ask users relevant questions concerning their needs	9	81.8
2	Ability to speak fluently to users	10	90.9
3	Ability to understand users queries	10	90.9
4	Ability to guide users properly after listening to their queries	9	81.8
5	Ability to serve users with right information	9	81.8
6	Ability to send users answers to their queries using appropriate channel	7	63.6
7	Ability to receive and treat user's query effectively	6	54.5
8	Ability to provide good listening ears to users	8	72.7

Table 4 showed that ability to speak fluently to users and ability to understand user's queries have 10(90.9%) each with ability to receive and treat user's query effectively being the least pattern of interpersonal communication skills among reference librarians with 6(54.5%). Aside ability to speak fluently to users and ability to understand user's queries, other patterns of interpersonal communication skills among librarians include ability to ask users relevant questions concerning their needs, ability to guide users properly after listening to their queries and ability to serve users with right information with 81.8% each. The findings corresponds with that of Saunders and Jordan (2013) who reported that the ability to speak correctly to the users as well as the ability to understand the users query were the tasks the librarians mostly used. The implication of this is that librarians would always fail to satisfy the needs of users if they do not have the ability to speak and understand users query.

Interpersonal Communication Skills Utilized Reference Librarians for Information Services Provisions

Table 4: Interpersonal Communication Skills Utilized Reference Librarians for Information Services Provisions

	Items	HU	U	RU	NU	UD	Mean	Std. Dev	Remark
a	Ability to ask users relevant questions concerning their needs	6	4	0	0	1	4.27	1.19	Utilized
b	Ability to speak fluently to users	7	3	0	0	1	4.36	1.21	Utilized
c	Ability to understand user's query	7	3	0	0	1	4.36	1.21	Utilized
d	Ability to guide users properly after listening to their query	5	5	0	0	1	4.18	1.17	Utilized
e	Ability to serve users with the right information	7	2	1	0	1	4.27	1.27	Utilized
f	Ability to send user's answers to their query using appropriate channel	3	4	1	2	1	3.55	1.37	Utilized
g	Ability to receive and treat user's query effectively	5	2	2	0	2	3.73	1.56	Utilized
h	Ability to provide good listening ears to users	5	3	1	1	1	3.91	1.38	Utilized
	Cumulative						**4.08**	**1.30**	**Utilized**

Decision= Mean ≥3.0 = Utilized, Mean < 3.0 = Not utilized

Table 4.2 showed the respondents' opinions on interpersonal communication skills utilized reference librarians for information services provisions. The table revealed aggregate mean response scores ranging 3.55 to 4.36. They are all greater than the benchmark mean of 3.00. This implies that interpersonal communication skills are highly utilized by librarians for information services. In particular, majority of the librarians were of the opinion that ability to speak fluently to users and ability to understand user's query are the major interpersonal skills utilized by reference librarians for information services provisions with each having a mean response score of 4.36. Though above the average mean score of 3.00, the least interpersonal communication skills utilized by librarians is the ability to send user's answers to their query using appropriate channel with response score of 3.55.

The findings in this study agrees with that of Koganuramath and Angadi (2005) who emphasized that it is vital that reference librarians be kept in touch with modern developments and maintain a proactive approach to their work in an ever-changing information world. The finding is also in consonance with Muddapur and Agadi (2017) noted that interpersonal skills for library professionals especially in the reference section of any library is all about possessing effective listening, writing, presentation, decision making, problem solving and leadership skills to create friendly environment for library users, create and promote a positive image and good will for the library and enhance information service delivery.

Summary of findings

The following are the summary of the findings:

1. Ability to speak fluently to users, Ability to understand users queries, Ability to ask users relevant questions concerning their needs, Ability to guide users properly after listening to their queries, Ability to serve users with the right information, Ability to provide good listening ear to users, Ability to send users answers to their queries using appropriate channel and ability to treat and receive users query effectively are the major patterns of interpersonal communication skills among reference librarians for information services provision in Kashim Ibrahim library ABU Zaria.
2. Ability to speak fluently to users, Ability to understand users query, Ability to ask users relevant questions concerning their needs, Ability to serve users with the right information, Ability to guide users properly after listening to their queries, Ability to provide good listening ears to users, Ability to receive and treat users query effectively and Ability to send users answers to their queries using appropriate channel are the major Interpersonal Communication Skills utilized by reference librarians for information services provisions in Kashim Ibrahim library ABU Zaria.

Conclusion

Interpersonal communication skills exist between reference librarians and library users in Kashim Ibrahim Library ABU Zaria for Information Service delivery. The interpersonal communication skills possessed and utilized by reference librarians in Kashim Ibrahim Library are; ability to speak fluently to users and ability to understand users query which are not enough in efficient and effective Information Service delivery and this can be concluded to be the reason for the continuous decline in library patronage.

Recommendations

Based on the findings and conclusion of this study, the following recommendations were made, that:

1. Reference librarians should improve on the following interpersonal communication skills possessed; ability to speak fluently to users, ability to understand users queries, ability to ask users relevant questions concerning their needs, ability to guide users properly after listening to their queries and ability to serve users with the right information.
2. Reference librarians should utilize the ability to send users answers to their query using appropriate channel, ability to receive and treat users query effectively and ability to provide good listening ears to users.

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RELATIONSHIP BETWEEN REASONING ABILITY AND ACADEMIC PERFORMANCE OF STUDENTS TAUGHT MOLE CONCEPTS USING JUST-IN-TIME INSTRUCTIONAL STRATEGY

BY

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Abstract
This study investigated the relationship between Reasoning Ability and Academic Performance of students taught Mole concept using Just-in-time Instructional Strategy in Zaria Education Zone, Kaduna, Nigeria. Quasi-Experimental Design was used. Experimental group was taught using Just-In-Time Cooperative Teaching Strategy. The population comprised 3,441 SS 2 chemistry students out of which 231 students were randomly selected and used as the sample size for the study. Two instruments; Mole Concept Performance Test (MCPT) and the General Assessment of Logical Reasoning Test (GALT) were duly validated and used for data collection. Both instruments were pilot tested with reliability coefficients of 0.70 and 0.82 respectively. Research question was answered using mean and standard deviation while null hypothesis was tested using Pearson Product-Moment Correlation at $P \leq 0.05$. Findings revealed significant relationship between reasoning ability and performance of Chemistry students exposed to Just-In-Time Teaching Strategy. Based on the findings, it was recommended that Just-In-Time Cooperative Teaching Strategy be used by Chemistry teachers to teach Mole Concepts in senior secondary schools.

Keywords: Instructional Strategy, Just-In-Time, Mole Concept, Reasoning Ability, Performance.

Introduction

The persistent poor performance of students in SSCE chemistry for quite some time has become a major concern to Science Educators, Parents, and other stakeholders in science education. Literature has revealed that students' academic performance in chemistry at senior secondary has been consistently poor, Obeka(2010) and Oloyede (2012). Poor teaching methods adopted by teachers at the senior secondary school level in Nigeria have been identified as one of the major factors contributing to the poor performance of students (Ameh & Dantani, 2012; Daluba, 2013). Science educators such as Bichi(2002), Obeka(2010) and Isah (2018), in individual research, observed that comparing lecture method with other teaching methods showed that 'lecture method' is not particularly effective in achieving the desired objectives. This is because, in the lecture method, the teacher does much of the activity in form of talking, while the learners are either passive or slightly involved. Isah, (2018), revealed that the prevailing method used by most teachers in Nigeria is the lecture method.

The chief examiner's report for the West African Senior School Certificate Examination (WASSCE, 2015-2020) pointed out that some of the reasons for candidates' poor performance in chemistry are; the inability of the students to tackle most of the numerical questions; poor expressions and the use of nomenclature, especially in organic compound and writing of formulae and incorrect balanced chemical equations. Ojokuku and Amadi (2010) also pointed out that students have difficulties in learning certain chemical concepts, such as solubility, electrolysis, redox reaction, chemical equilibrium, and balancing of chemical equations. Due to the importance placed on stoichiometry, the examination bodies such as WAEC and NECO always set examination questions in practical chemistry and the theory part on stoichiometry, in which the knowledge of the mole concept serves as the basis for tackling such questions (Yaubu, 2017). It is, therefore, necessary that students should master the mole concept as it will help in better understanding of some chemistry topics, such as; electrolysis, balancing of chemical equations, redox equation, stoichiometry, and quantitative analysis. Bamidele *et al*. (2013), opine that Mole concepts and Stoichiometry is one of the areas students find difficult in external examination because it requires a lot of

reasoning. To achieve effective mastering of the mole concept and other difficult concepts in chemistry, instructional strategies such as problem-solving, cooperative learning, activity-based teaching is recommended to be used.

In just-in-time, the teacher gives the students' problems or questions to tackle, the outcome or the quality of their responses depends to an extent on the ability of the individuals in which reasoning ability is a major factor. Thus, it is expected that reasoning ability to an extent should determine the performance of students' using just-in-time instructional strategy. This suggest that students' reasoning ability should be a major predictor of students' performance in the strategy and this study aimed at establishing the extent at which it can be used to predict students' performance.

Objective of the Study

The objective of this study was to determine the relationship between reasoning ability and academic performance of students taught Mole concepts using Just-In-Time Instructional strategy.

Research Question

The following research question guided the study:

i. What is the relationship between students' reasoning abilities and academic performance of Chemistry students taught Mole concepts using Just-In-Time Instructional strategy?

Null Hypothesis

The following hypothesis was formulated and tested at $P \leq 0.05$ levels of significance:

H0: There is no significant relationship between students' reasoning ability and their mean performance in Chemistry when taught Mole concepts using Just-in-time Instructional Strategy.

Methodology

Quasi-experimental control group design involving pretest-posttest was used for the study. The population of the study comprised of 3,441 all public co-educational Senior Secondary School (SS II) students offering Chemistry as a subject in Zaria Education Zone who were admitted in the 2022/2023 academic session. The sample were selected through Simple Random Sampling technique using draw-from the hat method. A school was randomly selected with a total of 231 SS2 chemistry students. The school was randomly assigned into Experimental Group. Before the commencement of treatment, this school was pretested using GALT and MCPT to determine their reasoning ability and academic performance equivalence. The Experimental Group (EG) was exposed to mole concept for six weeks using Just-In-Time Teaching Strategy, after which a post-test was administered to determine their reasoning ability level and academic performance.

Two instruments were used for the purpose of data collection. These include, Mole Concept Performance Test (MCPT) and Group Assessment of Logical thinking (GALT) Test. The instrument mole concept performance test (MCPT) was adopted from Senior School Certificate Examination (SSCE) question papers and practice exercises from practical Chemistry by Ojokuku to ascertain the student's level of comprehensions and their ability to solve numerical problems on Mole concept in Chemistry. The instrument has two sections (A & B), section A was demographic data and the section B is for the Performance Test. The MCPT contain 40 multiple choice test questions with five options or distractor (A, B, C, D & E) that was developed by the researcher to measure the students' performance in mole concept (stoichiometry). Each correct response attracts 1mark. Thus the total mark to be awarded is forty (40). The items consist of 27 calculations and 13 theories on Mole concept. The test items cover entire topic unit and was used in determining the performance of students prior and after treatment. Each of the 40 multiple choice items have five options, one correct answer and four likely distractors. The items were developed based on four levels of bloom's taxonomy of educational objectives. Group Assessment of Logical

Thinking (GALT) was used to measure the reasoning ability of the study subjects. It was adopted from (Mari 2002). The instrument consists of 12 questions testing six reasoning abilities namely;

i. Proportional Reasoning. Here, the individual recognizes and interprets relationships in situations described by observable or abstract variables (e.g. the rate of diffusion of a gas is inversely proportional to the square root of its vapour density Graham (cited in Ababio, 2015).
ii. Controlling Variables. This is displayed in testing the validity of a relationship, where an individual recognizes the necessity of taking into consideration all the known variable and designing a test that controls all variables but the one being investigated.
iii. Probability Reasoning. An individual recognizes the fact that natural phenomena themselves are probabilistic in character that any conclusion or explanatory model must involve probabilistic considerations, and that useful quantitative relationships can be derived.
iv. Correlational Reasoning; In spite of random fluctuations, an individual is able to recognize causes or relations in the phenomenon under study by comparing the number of confirming and disconfirming cases
v. conservation; realizing that a quantity remains the same if nothing is added or taken away, though it may appear different (e.g. when all the water in a beaker is poured into an empty graduated cylinder, the amount originally in the beaker is equal to the amount finally in the cylinder).
vi. Combinational Reasoning. An individual systematically considers all possible relations of experimental conditions, even though some may not be realized in nature.

Scoring of test

Group Assessment of Logical Thinking (GALT) was scored by adopting the mode of scoring by Mari (2002) in which a correct responses and reasons are tied to score. When there is a correct response with wrong reasoner vice versa, the item was not scored. However; Item 11 and 12 were scored differently. For item 11, marks were given to responses which show a pattern and not more than two errors or omissions. This is because the numbers of arrangements required to produce a pattern are more in question 12. The mode was adopted based on the observation by Mari, (2002). A correct response and reason earns one mark, correct pattern with one error or two errors earns a mark for question 11 and 12.

The instruments for study were given for validation. The validity Content of the MCPT and GALT was assessed by three senior lecturers with Ph.D. qualification and above in the Department of Science Education, Ahmadu Bello University, Zaria, psychology and WAEC and NECO examiner. This is in addition to the initial validation and acceptance of the instrument by the panel of supervisory committee. These experts were requested to examine whether the items are clear, precise and free from ambiguity; certify if they are appropriate for the level of the students under study and check for possible errors and suggest corrections. The experts made constructive criticism in area of language level and content of all instruments used. According to the experts, most of the equation of reaction were not clearly stated. The corrections were made leading to the final acceptance of the instruments that was used for the study. The instruments were then pilot tested with an intact class of SSII Chemistry students in GSS Jama'a Senior Secondary School of Giwa Educational zone, Kaduna State.

The test and retest was used to test the reliability of the test scores. The reliability of the instrument Mole Concept Performance Test (MCPT) was determine using Pearson Product Moment Correlation Formula, while the reliability of Group Assessment of Logical Thinking (GALT) determine using Spearman Rank Order. The scores collected were analysed using Pearson Product Moment Correlation coefficient to determine the reliability of the two instruments. From the result obtained, MCPT was found to be 0.70 and GALT was also found to be 0.82, indicating a strong positive relationship. Thus, the instrument is reliable to measure the academic performance of the study subjects reasoning ability respectively. The treatment was done by the researcher to remove any nature of bias. During the administration of the treatment, the students were presented with just-in-time (JITT) exercise to be completed and summited a day before the lesson. The type of just-in-time exercise used is called warm-up question.

Experimental Group

It is important to note here, that JITT in its form was developed for the developed nations. As a result, it may not operate successfully in a developing Country like Nigeria where students do not have access to electronic resources. Hence, there is need for modifications. The following modifications were therefore made:

i. The use of web-based resources was replaced with the use of library resources.
ii. The electronic distribution of warm ups materials to students was replaced with manual distribution during class activities.
iii. The electronic submission of warm up exercise by students to the teacher was done few days before the actual classroom discussion on the JITT material.
iv. The use of digital projector to present lessons was replaced by the classroom illustration on the chalkboard.

Based on the above modifications, the treatment is as follows:
the students were taught mole concept using the JITT materials and procedures. The JITT materials were given to the learners and they were also taught how to use library resources to facilitate classroom learning. The JITT materials were given to them in form of "warm-ups". Warm-ups are lesson materials like notes or assignments given to the students to read few days before the class. The Students were required to complete the warm-ups (assignments) individually at their own pace and submit them few days to the teacher before the class sessions. The teacher read through the students' submissions. The teacher ensured that each lesson was preceded and informed by an assignment made from library resources. The entire class session was characterized by clarification of any confusing concept identified in the students' responses, class discussion of the materials given (warm-ups), questioning, and assignment of the next lesson.

The MCPT items was administered to the students in their classrooms; first as pretest and then after six weeks' period of instruction by the researcher the MCPT items was administered again to the group in the form of examination. The scores obtained was used to answer the research questions and to test the stated null hypothesis.

Procedure for Data Analysis

The scores collected from the posttest were statistically used to answer the research question and to test the null hypothesis. The research question was answered using descriptive statistics of mean, standard deviation and Pearson Product-Moment Correlation coefficient while the null hypothesis was statistically tested using inferential statistic at $P \leq 0.05$ levels of significance:

H0: There is no significant relationship between students' reasoning ability and their mean performance in Chemistry when taught Mole concepts using Just-in-time Instructional Strategy. Pearson Product-Moment Correlation coefficient was used to test the null hypothesis at $P \leq 0.05$ levels of significance.

Data analysis and result presentation

Data obtained using the General Assessment of Logical Test (GALT) and Mole Concept Performance Test (MCPT) were analyzed using descriptive and inferential statistics. Results obtained were used to answer the research question and to test the null hypothesis.

Result

Research Question: What is the relationship between students' reasoning abilities and academic performance of Chemistry students taught Mole concepts using Just-In-Time Instructional strategy?

To answer this research question; Mean, Standard Deviation and Pearson Product-Moment Correlation (PPMC) statistics were used. The result is presented in Table 1

Table 1: Mean, Standard Deviation and Pearson Product-Moment Correlation Coefficient of Students' Reasoning Ability and Performance in Mole Concept

Variables	N	Mean	S.D	S.E	R
Reasoning Ability	231	6.39	2.13	0.14	0.76
Academic Performance	231	24.24	5.90	0.39	

Table 1 shows that the mean reasoning ability score of the Chemistry students is 6.39 with a standard deviation of 2.13 and standard error of 0.14 while the mean academic performance score of the students is 24.24 with a standard deviation of 5.90 and standard error of 0.39. The correlation coefficient (r) is 0.76, indicating that the relationship between the reasoning ability and academic performance of Chemistry students taught Mole Conceptswith Just-In-Time Strategy is highly positive.

Test of Hypothesis

H_0: There is no significant relationship between students' reasoning ability and their mean performance in Chemistry when taught Mole concepts using Just-in-time Instructional Strategy. To test this null hypothesis, Pearson Product-Moment Correlation (PPMC) statistic was used at $P \leq 0.05$ levels of significance. The result is presented in Table 2

Table 2: Pearson Correlation between Students' Reasoning ability and their Performance

		Reasoning Ability	Academic Performance
Just-in time Strategy	Pearson Correlation	1	0.76**
	Sig. (2-tailed)		0.000
	N	231	231

** Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows a Pearson Correlation Coefficient (r) of 0.76 and a p-value of 0.000. The p-value is less than the 0.05 levels of significance. This implies that the Academic Performance of students is significantly correlated to their reasoning ability. Thus, the null hypothesis which states that there is no significant relationship between the reasoning ability and academic performance of Chemistry students taught with Just-In-Time is hereby rejected.

Discussion of the Results

The result in Table 2, reveal the correlation coefficient (r) as 0.76 which indicated that there is high positive relationship between Reasoning Ability and Academic Performance of Chemistry students taught Mole concept with Just-In-Time Instructional Strategy. This shows that just-in-time teaching strategy is an effective method that enhancing reasoning ability and academic performance on the subject under study. This result supports the observation of Nnorom (2013) on the Effect of Reasoning Skills on Students Achievement in Biology in Anambra State and depicted that those students who had high reasoning ability achieved better in Biology than the students who had low reasoning ability. This finding agrees with earlier findings of Lawson (2003), Luo (2008), and Mari and Gumel (2015), which also shows that learner's cognitive process (reasoning ability) and academic performance can be enhanced through effective method of instructions. The Just-In-Time Teaching Strategy actively involves the students in the learning process and allows the learner to gain a deeper understanding of the concepts and become better critical thinker (Nakatani, Edwars, & Zhu, 2001). This finding also agrees with that of Sungur, Tekkaya and Gabon (2001), Oloyede (2012), Nnorom (2013) and Bhat (2016) who also found a positive significant relationship between reasoning ability and academic achievement. This shows that reasoning ability is a strong predictor for the academic performance in Chemistry.

Summary of major finding

The analysis of the posttest scores indicates that there is a significant relationship between reasoning ability and academic performance of Chemistry students taught Mole concepts when exposed to Just-In-Time Instructional Strategy.

Conclusion

Based on the findings of this study, it can be concluded that student's academic performance in mole concept was significantly improved and their reasoning ability was also enhanced through the use of Justin-time cooperative teaching strategy.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. There is a need for the improvement of Chemistry learning and teaching conditions and practices existing in Nigerian secondary school through the use of different effective teaching and learning method and model such as just-in-time cooperative teaching strategy which is students centered based approach to teaching and learning instead of the conventional lecture method that is teacher centered.
2. Since the reasoning ability of students affects the learning of science concepts, therefore, there is the need for science teacher to systematically and periodically assess or determine the reasoning ability of their students. One way of doing this is by given warm up questions that are taught provoking to improve or assess their reasoning ability.

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INFILTRATION OF RUMOURS IN INFORMATION ACCESS AND USE FOR SOCIAL STABILITY IN PLATEAU STATE

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Abstract

Rumours hamper peoples' ability to identify, retrieve and process information for peaceful coexistence. This study investigates rumours infiltration in information access and use for social stability in Plateau State. Three research questions and two null hypotheses guide the investigation to reveal: extent rumour mongering affects access to information for social stability in Plateau State, challenges to combating rumours in the dissemination and utilization of information for social stability in Plateau State and identify the contribution of social interaction points in peddling rumours which hinder Social Stability in Plateau State and to also test the relationship between rumour mongering and social instability in Plateau State and Social instability information disseminated through rumour mongering on information utilisation in Plateau State. Quantitative and Survey research designs were used for the investigation with a population of 922, 983and a randomly drawn sample size of 301, data was collected with the aid of structured questionnaire and analysed using simple frequency count percentages, PPMC and Chi square. Some of the findings disclosed that the absence of reliable information plunge individuals in to cognitive dissonance where they have to make sense of the crises they found themselves by milling rumours, this make people have disbelieve for information released by government and the media and that creates room for intuitive permutations and exaggeration which later affected genuine information disseminated on social stability in Plateau state. The attitude to not authenticate information does not allow individuals to critically rethink the authenticity of the information they read and incorporate into their knowledge base and thus, serves as reserved ingredient for spiking social instability in Plateau State. In conclusion, social stability is a complicated venture as there would always be reasons for agitations. While emphases have been placed on socio-economic and ethno-religious dimensions with little results recorded, the infiltration of rumours in the dissemination of information for social stability must equally be largely studied to curtail apprehension and instill sense of peace, security and safety among the people. There is need to leverage on government and religious institutions to reorient the people in Plateau State on the dangers of milling unconfirmed and malicious information. There is need to pay attention to social information grounds as places where stories and rumour thrive.

Introduction

Rumors are pieces of information or a story that has not been verified. What this implies, is that the individual peddling the rumour does not know for certain if it is true or not. Most of the time, individuals who spread rumours do not bother to determine if there is any truth to what they are saying. Typically, rumors are spread from person to person and can change slightly each time they are told. As a result, they can become exaggerated and altered over time. Rumors can involve just about any topic and often run the gamut (Gordon, 2020). Studies have shown how rumours infiltrate information disseminated for social stability, rise community tension and create apprehension and even tarnish organisational image (Ibrahim, 2016; Sobande, 2023; IvyPanda, 2023). Access to information to promote social stability is affected by rumours spread among people and on the various platforms provided by the public and private bodies and other sources. Rumours hamper peoples' ability to identify, retrieve and process information for peaceful coexistence (Becker, 2019). Access to reliable information sources is the obvious antidote that contribute to

social stability in communities, its absence implies fundamental violation of peoples' right to access to information for numerous reasons one of which is for the maintenance of social stability.

Social stability encompasses the desire and willingness of people to coexist as a nation or society shunning all and accepting ethnic, cultural and religious difference and colour. According to Vladimir (2009) social stability is the basic conditions for a normal economic and social life allowing survival of mankind. Riedl (1999) added that economic and democratic growth is anchored on social stability. This implies that where there is social disorder among people of a nation the progress of that country faces risk of regression and in worse scenarios stagnation. It may reflect a variety of factors such as poverty, unemployment, and social injustice (Marco, 2011). As such the desirability to have socially stable society hinges on the maintenance of attendant factors, these are what Jean (2002) relates to as risk indicators that if tackled would guarantee social stability in Africa to include: loss of political space for opposition, civil society and media, social, economic and political exclusion, unemployment, especially among youths, impoverishment, increasing inequalities, human rights violations, increasing insecurities, migratory flows but did not suggest communication of unofficial information as an indicator to note.

Social stability in Nigeria is affected by rumours which permeate issues such as social, economic, political and security which give rise to conflict in Niger Delta, Plateau and Borno States needing holistic solution. Further, studies conducted by Sunshine progressive youth (2013) and Nweke (2013) discovered factors that encourage social instability such as corruption, poor quality of life of the people, scare resources, unemployment and unbalanced wealth lead to social distrust and tension. For Michael LaBossiere (2011) "One aspect to maintaining social stability is ensuring that people are willing to remain within the limits of the stability of the system in question. Naturally, there are important moral questions about the methods that should be used to maintain stability and about whether or not specific systems should be maintained. Despite studies conducted from the dimensions of economic, cultural, political, and ethno-religious to avert and correct instability, social instability still occurs in Plateau State and this calls for a new approach to combating rumours infiltration in the dissemination and utilisation of information for social stability in plateau state.

The utilisation of rumour has been found in peoples' reaction when they receive it. The first type of rumour that sparks panic according to Wang and Sun (2010) include: earthquake and natural disaster rumours. The second type is rumour that triggers demonstration, protest and exoduses of people. The third type is rumour that leads to mass incident (Buxi, 2008; Ding, 2008 & Zhang, 2010). Commonly, the infiltration of rumour in normal transmission process of credible information has often resulted in violent conflicts usually fatal when it contains one or several of the following elements: death (by unnatural causes), rape, assault, corruption, abuse of power and forced demolitions. Utilisation of rumour is in its consumption by the public and the effect it has in shaping their opinion about their society or about a market as well as their individual beliefs, and affairs. (Liu, 2010). On the contrary, Huang (2015) in his studies on the effects of rumours in fostering political trust in china observed that rumour is often utilised to do independent assessment of government social programmes. When the desired outcome is not seen by individuals on policy formulation and implementation they resort to mistrust.

Plateau State was created on February 3 1975 by the then military regime of Murtala Mohammed with Jos at its capital. The altitude ranges from around 1,200 meters to a peak of 1,829 metres above sea level in the Shere Hills range near Jos. Its water source includes the Kaduna, Gongola, Hadejia and Yobe rivers and occupies 30,913 square kilometres of land mass. Plateau State shares borders with Kaduna State to the North Kaduna and Nassarawa States to the East, Benue to the South and Taraba State to the East. Plateau State is located between latitude 80°24'N and longitude 80°32′ and 100°38′ east. It has over fourty ethno-linguistic groups including the Hausa, Fulani, Igbo, Yoruba, Ijaw, and Bini and predominantly Christian.

Problem Statement

Plateau state is the most important mining area in Nigeria and is a major exporter of tin and columbite. The tin is smelted just outside Jos, the state capital and its largest town. The metals are shipped by rail to Port Harcourt for export. Other minerals, notably tantalite, kaolin, tungsten (wolfram), zircon, and thorium compounds, are also exploited on the plateau. Lead, zinc, and silver are mined on a small scale in the eastern part of the state around Wase, Zurak, and Kigom (McKenna, 2009). Peace is an essential recipe for stable coexistence among especially plural people such as the people of Plateau State, a State known for its hitherto hospitality, serene weather and plays important role in farming in the North and Nigeria have found itself in turmoil of crises and obvious instability in religious, political, economic, ethnic and socio-cultural dimensions. Studies conducted have not adequately understood the situation largely due to their limitations to socio-economic and political factors. The current study is designed to investigate infiltration of rumours among people in the State in the dissemination and utilisation of information for social stability.

Research Objectives

The following were the objectives of the study:

1. To ascertain the extent rumour mongering affects access to information for social stability in Plateau State
2. To reveal challenges to combating rumours in the dissemination and utilization of information for social stability in Plateau State
3. To identify the contribution of social interaction points in peddling rumours which hinder Social Stability in Plateau State.

Research Hypotheses

The following null hypotheses were tested:

1. **HO1-** There is no significant relationship between rumour mongering and social instability in Plateau State?
2. **HO2-** Social instability information disseminated through rumour mongering have no significant effect on information utilisation in Plateau State.

Scope of the Study

This study only covered areas in Jos, Plateau State mostly affected by crises. The areas were Dutse Uku, Katako, Dogon Karfe and Rukuba and Rakunggaza and Dutse Kura in Barkin Ladi, Riyom, Jos North and Bassa Local Governement Areas.

Literature Review

Rumour Mongering as Alternative Channel of Information Dissemination

It is generally assumed that rumour mongering is an alternate means of information dissemination. Bamidele (2011) remarked that insidious and destructive as rumour may seem, it also possesses the fluidity in dissemination of information amongst people who engaged in it. He added that, in Nigeria, rumour has become a process of explanation because stories about individuals either in their official or private capacities have become items that the media had also oftentimes helped in disseminating. For example in 1993, Fan Milk Plc, which produces various dairy products was said to be owned by Francis Arthur Nzeribe, an opprobrious politician. The organization had to spend huge sum of money to buy media space to deny the rumour to stern irate mob's action. Procter and Gamble in Nigeria fulfilling one of its corporate responsibilities distributed free samples of its Always Sanitary Pad in 2003 to female undergraduate students in University of Maiduguri, where one of the beneficiaries apologised that she contacted AIDS after its use. In society, rumours often circulate most strongly among people generally well down in the hierarchy and who tend to be the last in the queue when information is disseminated through formal channels.

It has been observed by Oyewo (2007) that rumour is an alternative viable form of information within organization and whenever information is controlled from the reach of or made inaccessible to people alternative means of obtaining information are often considered and rumour mongering is one of them. Individuals who are in need of information and could not find it turn to informal or social sources for information. Such sources provide them relieve and serve as alternative to formal information. Generally, informal sources of information are characterized by unreliable, unconfirmed and lucid information when compare with the formal.

Information Access

According to Becker(2019) information access is the ability to identify, retrieve, and use information effectively. Access to information is vital to social, political, and economic advancement. Traditionally, information has been disseminated in a variety of formats that have been widely accessible, often through public libraries. Many individuals also relied on other people and the media for information. However, advances in computer technology have revolutionized information access, making vast stores of business, education, health, government, and entertainment information accessible on the World Wide Web. Yet, despite technology's dramatic impact on the extent and availability of digital information, many people do not have access to these resources.

Most people connect to the Internet from home, work, or public access sites like libraries, schools, and community centers using personal computers, e-mail stations, interactive digital televisions, game stations, or web kiosks. The need for improved access has led to the development and refinement of applications. Web browsers, like Netscape and Microsoft Explorer, use graphical interfaces with embedded hyperlinks for navigation, making the underlying commands transparent to the user. With these applications, the Internet became more accessible and it emerged as a global information source. Scholarly, scientific, and everyday research was transformed by access to full-text documents as well as by the digitization of primary sources. Text translation applications minimized language barriers and text-to-speech technology improved access for the visually impaired. Educational opportunities were extended to new audiences and business access to management information and market intelligence was improved(Wresch,1996; Head, 1999; Brown& Paul, 2000; Mates, 2000).

Rumour Mongering and Social Instability

In particular, rumour through new media platforms plays a significant role in maintaining social instability. On the one hand, to snuff out dissent and ensure social stability, authorities must strive to crack down on rumour mongering and prevent rumours from circulating specifically through the Internet and mobile phones (Liu, 2013). To guarantee the legitimacy in anti-rumour actions, governments normally emphasize the false, fabricated, defamatory, and irrational nature of rumours. The strategies adopted also consist in naming rumour as “a ‘new-style’ social weapon” (Chen, 2011 & Smith, 2006) by certain foreign forces to attack the leadership of country’s ruling party, drawing colourful parallels between rumours and pornography, gambling and drugs (Chen, 2011), or endowing rumour-mongering with a counter-revolutionary initiative (Smith, 2006) or an ulterior motive made out to cause social instability, disrupt public security, or even incite to overthrow state power (Hu, 2011 & Zhang, 2010).

As a rumour distinguishes itself by its great penetration and influence, it is natural that it can be successfully used in implementing the social control of the society. In other words, it can become one of an important means of such control. One of the first to take notice of it was a notable American sociologist A. Ross who together with the colleagues F. Giddens and L. Ward issued the magazine of social works American Journal of Sociology (1895–1905). A. Ross based his work on the ideas of H. Spencer, a representative of the organic school. He asserted that a society resembled a biological organism and that the laws of social development were the same as of any living organism. As biological organism has got various organs which function in harmony and fulfill all necessary functions, in the same way in a social body that is in society various groups of people fulfill different social functions and function in harmony; it

ensures normal development of the society. In their turn, rumours strongly influence that collaboration and, as informal forms of communication, are especially effective and play an important role in creating and consolidating the social order in the society.

Rumour as unofficial but interesting piece of news quickly spreads from person to person in a social group. It is also the spread of unverified and fabricated information. Generally, rumour mongering can be conceived as a collective and collaborative transaction in which community members offer, evaluate, and interpret information to reach a common understanding of uncertain situations or events (Bordia, 1996; Bordia and DiFonzo 1999, 2004; Shibutani, 1966). For rumour to flourish there must be absence of official information or trustworthy information which then leads to improvisation of news through a collective transaction with the intention to cope with uncertainties of life (Shibutani, 1966). It functions in a different way filling information gaps and knowledge deficits in less organized, more spontaneous and surprising ways. It leads to public understanding of issues that can be at odds with officialunderstanding which would throw the public into social pandemoniums that disrupts the social stability of the public (Allport and Postman, 1947; Kapferer, 1990; Knapp, 1944; Rosnow and Fine, 1976; Sunstein, 2009).

Social stability is a sociological perspective that states that a group always seeks to maintain equilibrium by forcing out ideas and individuals that disagree with popular opinion.This helps to keep society in balance and promotes harmonious coexistence (Kay&Friesen, 2015). Contrarily, Social instability can cause revolution and unrest in a state and even bring regression to growth and stability of thriving economy due to spread of rumour or false information. Therefore, Social Stability is a fundamental requirement for national development because it is a state of social cohesion; understanding and cordial relationship among the citizens which takes place when the citizens, regardless of their religious, social and ethnic backgrounds, have peaceful co-existence and mutual understanding (Falade, 2014 &Soja, 2014). Thus, a rumour distinguishes itself by easy penetration and influence, it is natural that it can be successfully used to disrupt social stability in the society when there is obvious communication vacuum and also when it is used to discuss sensitive issues. That is, it can become one important means of social disorder (Pruskus, 2009). To ascertain when social disorder could set in, studies about genesis of rumour mongering are essential.

Methodology

The study adopted quantitative methodology and survey design. The population of the study was comprised of community elders, youth leaders and individuals who reside in flash point areas and witnessed the 2001, 2008, 2011 and 2014 ethno, political and religious violence in Plateau State. The population of the study was 922, 983 (2006 Census). Sample size of 301 was randomly drawn. Structure questionnaire was used to collect data and analysed using simple frequency count percentages, PPMC and Chi square.

Table 1: Shows the Response Rate of the Respondents According to their Categories.

Category of Respondents	**Questionnaire**		
	No. of Quest. Distributed	**No. of Quest. Returned**	**%**
Community Leaders Youth Leaders Affected Individuals	80 150 71	69 109 63	28.6 45.2 26.1
Total	**301**	**241**	**100**

Table 1 showed that less than half 109(45.2%) of the copies of the questionnaire were distributed to the youth leaders in four Local Government Areas under study and all were returned and found usable. In the

same vein. more than a quarter 69(28.6%) questionnaire was gotten from the Community Leaders who were gatekeepers. title holders and because of their years people take orders and advice from were from them. Similarly. more than a quarter 63(26.1) of the questionnaire administered to Affected Individuals who were persons traumatized through injuries inflicted upon them. who witnessed the death of their closed ones during the crises and lost valuables to arson were retrieved. The total number of respondents **241** was deemed sufficient and used for further statistical analysis and discussion of the subject matter.

Extent Rumour Mongering Affects Access to Information for Social Stability in Plateau State

The extent at which social stability is disrupted could be seen in the depth at which the dissemination and utilisation of rumour have gone in terms of ripple and chain reactions.

Table 2: Extent to which Rumour Mongering Hamper Information Dissemination and Utilisation for Social Stability in Plateau State

Extent to which rumour mongering affects dissemination and utilisation of information for social stability in Plateau State	Respondents							
	Community/youth Leaders				Affected Individuals			
	AG		DA		AG		DA	
	f	%	f	%	f	%	f	%
Very much because I have seen and heard lots of individuals peddle unofficial information, exaggerate and disapproved of official information that was disseminated	47	35.3	6	13.3	13	27.6	8	50
Not much because very few individuals I have seen peddle and utilised unfound information they receive from an unsecured source or person	31	23.3	34	75.6	11	23.4	6	37.5
Not at all because I believe in information I receive from people I share close ties with in place of formal one.	45	33.8	4	8.9	15	31.9	1	6.25
Other reasons(unbalanced media reportage by some journalists)	10	7.5	1	2.2	8	17.0	1	6.25

Key: AG- Agreed, DA- Disagreed

Table 2 depicted 47(35.3%) community and youth leaders to have very much seen and heard lots of individuals peddle unofficial information. exaggerate and disapproved information that were disseminated from official sources which hampers genuine information on stability followed by 10(7.5%) believed that unbalanced media report by some journalists have led to confusion and contradiction of information.

In addition. 15(31.9%) of persons affected by the crises agreed that they believed in information they received from people they share close ties with in place of formal one. Another 8(17.0%) of the persons affected reaffirmed that unbalance media report contributed negatively. in the same line 1(6.25%) said media report did not contribute adversely to dissemination and use of formal information about the crises.

Contribution of Social Interaction Points in Peddling Rumours Hindering Social Stability in Plateau State

Social avenues are places where rumours thrive easily without hindrance. This is because guests at the occasions meet with acquaintances and make new acquaintances by way of socializing and sharing views

and opinions on issues of concern. They are important places for sensitisationand enlightenment on crises. However, at the moment they contribute to the challenges in accessing information for social stability in Plateau State.

Table 3: Rumour Dissemination through Social interactions in Plateau State

	Respondents			
Social interaction points	**Community/youth Leaders**		**Affected Individuals**	
	f	**%**	**f**	**%**
Wedding Ceremony	12	6.4	11	10.7
Naming Ceremony	17	9.1	9	8.7
Festivities	33	17.6	9	8.7
Family Interactions	23	12.3	28	27.2
Friendly Discussions	41	21.9	23	22.3
By passing on unconfirmed or unofficial information heard from individuals whom you share ties with on social media such as Facebook, Google+, e.t.c	61	32.6	23	22.3

Note: The frequency is higher than the response rate due to multiple answers.

Table 3 uncovered that 61(32.6%) of community and youth leaders who admitted to have passed on unconfirmed information they heard from people that shared social ties with them on Facebook, Google+ e.t.c while only 12(6.4%) have disseminated rumour on the crises in plateau state via weeding ceremonies. On the other hand, 28(27.2%) individuals who have experienced crises in the state aligned that they did use the outcomes of interactions they had with their families to make up news in order to caution them about crises in their communities and 9(8.7%) expressed they had simply used naming ceremonies and festive periods for the fun of it to pass on information they had no knowledge about its authenticity.

Challenges to Combating Rumour Mongering in the activity of Disseminating and Utilising of Information to Aid Social Stability in the Local Government Areas in Plateau State

Impediments are a common feature when combating a scourge such as rumours to ensure unadulterated dissemination and utilisation of information by the public for social stability and cohesion. The table below contains hindrances to fighting rumour mongering and responses by respondents on them.

Table 4: Hindrances to combating rumour mongering in the dissemination and utilisation of information for social stability in Plateau State

s/n	Likely Obstacles	Community/youth Leaders		Affected Individuals	
		f	%	f	%
	Distrust in the channel of disseminating information for social stability.	34	19.7	13	15.7
	Individual attitude in not verifying information they receive before believing and using it.	56	32.4	23	27.7
	How to identify genuine information for social stability.	12	6.9	10	12.0
	How to verify information on social instability.	34	19.7	8	9.6

	absence of mechanism for reporting suspicious and volatile information to appropriate authorities	26	15.0	18	21.6
	Others (media information slavery, emotion and sentiment)	11	6.3	11	13.3

Note: The frequency is higher than the response rate due to multiple answers.

Table 4 disclosed the highest number of community and youth leaders who indicated that individual attitude to not verifying information they received before use was 56(32.4%) while 11(6.3%) were of the view that media information slavery which psychologically dictates sometimes which information to believe and which not to believe affect peoples' rationality as well as their emotional feeling and sentiment. More so. 23(27.7%) of persons who survived crises in the state also agreed that individual attitude to information they received has not helped to combat rumour mongering while 8(9.6%) associated the inadequacy in the fight against negative rumours to lack of knowledge to very suspicious social instability information.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between rumour mongering and social instability in plateau state.

Table 5: Correlation of Rumour mongering and Social Instability in Plateau State

Variables	N	Mean	Std. Dev.	Std. Error	r-calc.	DF	P	r-critical
Rumour Mongering	20	15.0200	9.26127	2.07088	0.160	19	0.400	0.861
Social Instability	20	11.3500	15.24286	3.40841				

Table 5 revealed that the two variables were significantly correlated. The observed correlation coefficient for the test is 0.160 at 19 degree of freedom while the critical value is 0.861. The observed significant level is 0.400 (P< 0.5). By these observations. the null hypothesis that "there is no significant relationship between rumour mongering and social instability in Plateau state" is therefore rejected. The result of the test showed that rumour mongering does have relationship with the social instability in Plateau State.

Hypothesis 2: Social instability information disseminated through rumour mongering has no significant effect on information utilisation in Plateau State.

Table 6 : Chi-Square on Social instability information through rumour and social stability in Plateau state

Variables	N	Mean	Std. Dev.	Std. Error	r-calc.	DF	P	r-critical
Social instability information disseminated through rumour mongering	8	8.7375	3.81536	1.34893	0.293	7	0.481	2.246
information utilisation in Plateau State	8	27.3750	22.06443	7.80096				

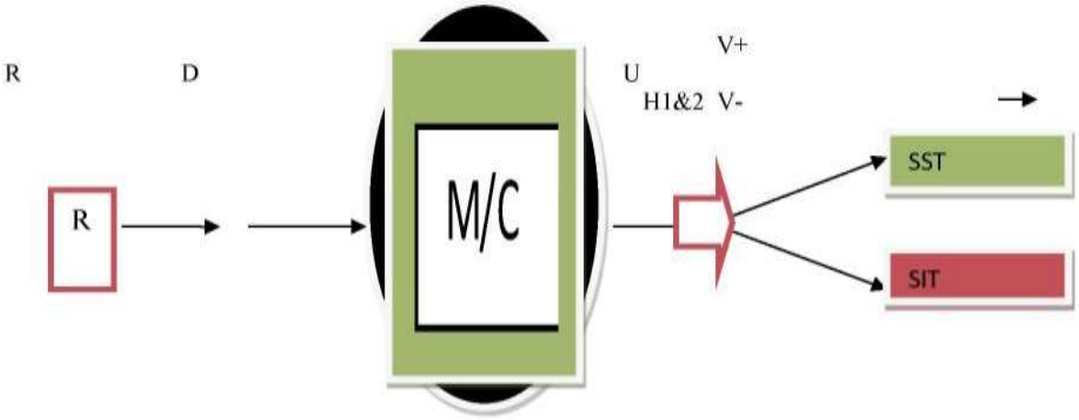
The table 6 disclosed that the observed chi-square coefficient for the test is 0.293 at 7 degree of freedom while the critical value is 2.246. The observed significant level is 0.441 ($P<0.5$). By these observations, the null hypothesis that "Social instability information disseminated through rumour mongering has no significant effect on information utilisation in Plateau State" is accordingly rejected. So therefore, the result also showed that social instability information targeted towards disrupting social cordiality in plateaus state did had effect on the current unrest in some notable parts of the state.

Discussion of Findings

1. The first finding disclosed that the absence of reliable information plunge individuals in to cognitive dissonance where they have to make sense of the crises they found themselves by milling rumours. Table 2 showed that the respondents attest to the cognition built around disbelieve for information released by government and the media and that creates room for intuitive permutations and exaggeration which later affected genuine information disseminated on social stability in Plateau state. In the chaotic transmutation and spread of rumours, the media including the print and non-print were observed to have contributed to the festering of the cognitive dissonance experienced by individuals in Plateau State as a result of unbalanced reportage and contradiction of news among the media. Similarly, familial ties were relied upon as credible source of information without paying attention to obvious repercussion.
2. The second finding reveal the admittance of the respondents to having utilised the social media platforms to not only connect with known and synonymous individuals whose motives could not be traced but to have received unconfirmed information from them and digested it and also, may have acted in the direction of the stimuli the information conveyed. Another social platform which the finding showed, was the wedding ceremony ground which influenced the thoughts, believe and actions of individuals due to stories they scooped from the gathering of guests who have come from near and far within and beyond the state, whom have consciously and otherwise been schooled through programmed information or propaganda spread by groups and individuals and probably taken peddling rumours as ways to gain sympathy and change narrations in their favour. A similar trait is, on the contrary, traced to families that make up cautionary news about the crises in their communities as a way to warn their children against peddling rumours and fake news is commendable.
3. The third finding stressed consequences bore due to the attitude to not authenticate information. This attitude does not allow individuals to critically rethink the authenticity of the information they read and incorporate into their knowledge base and thus, serves as reserved ingredient for spiking social instability in Plateau State. The fact that significant number of the respondents did not verify the information they usually receive, calls for serious concern and the need for reorientation of particularly the youths and community leaders in the State. The media in this case, was indicated to have played role in providing tilted information to people of Plateau State due leveraging on their ardent believe in the print media. The finding further indicated that the media sometimes psyche people into believing biased report which consequently influenced their cognitive, emotional feeling and sentiment towards the sense to fight rumours and opt to participate rather in actions that unbalance social stability in the state.
4. The hypotheses H1 and H2 tested and descriptive discussions of data supported the reliability of the propositionthat when rumours are disseminated, understood and utilised, and if the public understanding of the rumours is positive, the effect will reaffirm social stability. That when rumours are disseminated, understood and utilised and if the public understanding of the rumours is negative, the chain and ripple effects will amount to social instability. The strength of the hypotheses tested and discussion of findings led the author to propound a model that is available for further testing in similar studies on the effect of rumours dissemination and utilisation for social stability. This model is made available in this study.

Proposed Model on Effect of Rumour Dissemination and Utilisation on Information for Social Stability

The Diagram below illustrate Rumour Dissemination through a Medium or Channel which could be either Positive or Negative in content and meaning, and that is utilised or consumed by the public and if the public understanding of the rumour is negative then their reaction will be Social Instability. Similarly, if the public understanding of the rumour is positive then their reaction will reaffirm social stability. However, in a situation whereby the public understanding of the rumour is negative their reactions will be damaging to social stability and Ripple Effects which are the by-product of Chain Reactions will increase the damage. Ripple effect is the continuing and spreading results of an event or action while Chain Reaction is a sequence of reactions where a reactive rumour or by-rumour causes additional reactions to take place in such a way that it will reach high level of disorder.



Diagrammatic Representation of Proposed Model on Effect of Rumour on the Dissemination and Utilisation of Information for Social Stability

Equation Representation: SST =R+ D+M+U=0 or SIT=R+D+M+U+RE/CR=1
Where:
SST = social stability
SIT= Social instability
R= Rumour
D=Disseminated Rumour
M=Medium or channel of dissemination
U= UtilisedRumour
0= Negative/ No reaction
1= Positive/ Consequential
RE=Ripple Effect
CR=Chain Reaction

Conclusion

Studies on social stability are ubiquitous and necessary for the development and advancement of science and technology and economy of any nation. Governments have continued to invest in this critical and essential factor through the provision of basic infrastructures and social amenities and protection of life and property of the people. However, social stability is a complicated venture as there would always be reasons for agitations. While emphases have been placed on socio-economic and ethno-religious dimensions with

little results recorded, the infiltration of rumours in the dissemination of information for social stability must equally be largely studied to curtail apprehension and instill sense of peace, security and safety among the people. This study, in this regard, has studied Jos, Plateau State and made appropriate recommendations for possible implementation by the authorities.

Recommendations

1. There is need to leverage on government and religious institutions to reorient the people in Plateau State on the dangers of milling unconfirmed and malicious information. The government of Plateau State should ensure the dissemination of reliable information by its agencies and the media when necessary to curtail plunging people into a situation of cognitive dissonance and rumour mongering.
2. There is need to pay attention to social information grounds as places where stories and rumour thrive. The orientation agency in Plateau State should design programmes to educate people to be conscious of what they transmit in places of gathering and the social media.
3. Information literacy training should be done for youths on how to verify information on social media platforms as one of the ways to combat rumour mongering in the dissemination and utilisation of information for social stability by government agencies and the media in Plateau State.

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MARKETING STRATEGIES FOR PUBLISHED PRODUCTS IN THE NEW GLOBAL REALITIES OF INFORMATION INDUSTRIES

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Abstract
This paper titled "Marketing strategies for published products in the new global realities of information industries" is an opinion paper which examine various aspects of marketing strategies for published work which start from concept of marketing from different perspective, the concepts of marketing mix (7Ps: Price, Product, Place, Promotion, People, Process and Physical evidence) in relation to published work, then the discussion for the core marketing strategies that can be used to market published works and the marketing research for published work, this paper explained how each of these will be applicable to publishing industry. The study concluded that for any publishing industry to excel in this competitive world these marketing strategies should be used in their fullest form and also the study recommended that that publishing industries should always engage in inviting marketing experts and give them lectures and training on marketing tips for them to use the information for successful conduct of their work.

Keywords: Information, marketing mix, marketing strategies, publishing.

Introduction

We live in a post-industrial age where information is the coin of the realm. Knowledge is the most valuable asset in present society. The term "information product" is used as anything that can be offered to a market for attention, acquisition, use or consumption and that might satisfy a human need or want.A society that consumes and generates the most knowledge and information is the strongest society in present scenario. The information industry has grown dramatically in services, revenue, and coherence over the last decade.

Marketing is an important functional area for making information products readily available to its consumers for their daily routines in the society and marketing also improve any business which can create attraction for consumer products and services. The products and services that are not marketed effectively may not be profoundly consumed. The relevant business revenue may be lost and the product will face problem to enlist in public mind during the present course of time.

Marketing is commonly confused with promotion and advertisement of items. This is not true because the perimeters of marketing are vast. "Marketing is a social and managerial process whereby individuals and groups obtain what they need and want through creating and exchanging products and value with others" Products that are marketed include physical services, goods, experiences, events, places, organizations, properties ideas and information (Satpathy & Dey, 2015).

Concept of Marketing

The most well-known and most often used definition of marketing by Kotler (2007) stated that "Marketing is the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives". It relies heavily on designing the organization's offering in terms of the target market's needs and desires and as using effective pricing, communication, and distribution to inform, motivate and serve the markets.

There are 6 major points to be emphasized in the above definition:

i. Marketing is a managerial process involving analysis, planning, implementation and control.
ii. Marketing is concerned with carefully formulated programmes – not random actions – designed to achieve desired responses.
iii. Marketing seeks to bring about voluntary exchange.
iv. Marketing selects target markets and does not seek to be all people.
v. Marketing is directly correlated to the achievement of organizational objectives.
vi. Marketing place emphasis on the target market's (consumer's) needs and desire rather than on the producer's preferences. (Satpathy & Dey, 2015).

Furthermore, Marketing was also defined by Kotler & Armstrong (2010) as a social and managerial process through which individuals and organisations get what they need and want by creating and exchanging value with others. While Kotler and Keller (2013) gave the social definition of the market as "a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services of value with others." In these definitions, you will notice that marketing included finding out what the user wants or needs and how to meet these needs and exchange the products and services.

According to the American Marketing Association (2017) "Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large". Also, the American Marketing Association, as stated in Santos (2019), defined marketing as organisational functions involving many processes which are aimed at creating, communicating, and delivering value for customers', clients', partners' needs and managing customer relationships to the benefit of the organisation and its stakeholders.

Why Marketing is Essential for published works

Library and information centres are the custodians of information resources (information products), so many librarians correlate marketing with profit and consider that libraries are not for making profits. Basically, because they were not taught marketing at library schools and do not see marketing to do anything with running a library. Reasons for applying marketing in any library is not to increase profit but to increase the users' satisfaction and increase of funding in turn since increased customer satisfaction will often result in their increased willingness to use and pay for services offered. An enhanced perception of the value of the library will translate into increased level of support to the library. There are some unique reasons that require marketing in library and information centres (Ajay & Madan, 2018).

1. To understand the customers
2. To satisfy their customers
3. Management of libraries
4. Libraries need to grow According to Ranganathan's 5th law "Library is a growing organism
5. Service with smile
6. Improve the image of libraries

Marketing Entities

According to (Dongardive, 2013) various entities are found in the market which are: Goods, Services, Events, Experiences, Persons, Places, Properties, Organizations, Information, Ideas etc.

Concepts and Components of marketing mix

Marketing mix is a fundamental model in marketing and common tool use in any marketing strategy. Marketing mix is the particular blend of controllable marketing variables that the firm uses to achieve its objective in the target market. It's referring to the set of actions, or tactics, that a company uses to promote its brand or product in the market (Madu et al., 2017).

According to Philip Kotler "Marketing Mix" is the set of controllable variables that the firm can use to influence the buyer's response". The controllable variables in this context refer to the 4Ps [product, price, place (distribution) and promotion]. However, nowadays, the marketing mix increasingly includes several other Ps like People, Physical Evidence and Process of Services. Each firm strives to build up such a composition of 4Ps, which can create the highest level of user satisfaction and at the same time meet its organisational objectives. Thus, this mix is assembled keeping in mind the needs of target customers, and it varies from one organisation to another depending upon its available resources and marketing objectives (Madu et al., 2017).



The 7Ps of marketing mix

The components of the marketing mix are:

Product

Hence, a product can be described in form of anything like goods, services, ideas, people, places, and even organisations that are offered for exchange; or a product is the bundle of benefits or satisfactions offered to a customer. Also, a product is defined as anything offered or sold for the purpose of satisfying a need or want on both sides of the exchange process. It includes a tangible object that marketers refer to as a good, as well as an intangible service (such as ideas, a place, an event, an organisation), or any combination of tangible objects and intangible services (Madu et al., 2017). So, product in relation to published information works refers to the goods (books, journals, magazines, newspapers etc) and services (indexing, abstracting, cataloguing and classification, and telecommunication service among others) offered by the individuals or library and information centers to meets information user's needs (Dongardive, 2013).

Price

Price is the amount charged for a product or service or a value placed on what is exchanged It is the second most important element in the marketing mix (Silco 2018).

Pricing and factors affecting Pricing Decisions

The factors usually taken into account while determining the price of a product can be broadly described as follows as identified (Arunkumar & Ramani, 2018):

i. Cost
ii. Demand
iii. Competition

iv. Marketing Objectives
v. Government Regulation

Place

Basically, place otherwise known as channel of distribution refers to the vital links connecting the manufacturers and producers and the ultimate consumers/users. It includes both the producer and the end user and also the middlemen/agents engaged in the process of transfer of title of goods. Primarily a channel of distribution performs the following functions as indicated by (Arunkumar & Ramani, 2018): (a) It helps in establishing a regular contact with the customers and provides them the necessary information relating to the goods. (b) It provides the facility for inspection of goods by the consumers at convenient points to make their choice. (c) It facilitates the transfer of ownership as well as the delivery of goods. (d) It helps in financing by giving credit facility. (e) It assists the provision of after sales services, if necessary. (f) It assumes all risks connected with the carrying out the distribution function.

Factors affecting the choice of Distribution Channel

Choice of an appropriate distribution channel is very important as the pricing as well as promotion strategies are dependent upon the distribution channel selected. Not only that, the route which the product follows in its journey from the manufacturer to the consumer also involves certain costs. This in turn, affects not only the price of the product but also the profits. Choice of inappropriate channels of distribution may result in lesser profits for the manufacturer and higher price from the consumer (Dongardive, 2013). Hence, the manufacturer has to be careful while finalising the channel of distribution to be used. He should pay attention to the following factors while making his choice.

i. Nature of Market
ii. Nature of Product
iii. Nature of the Company
iv. Middlemen Consideration

Promotion

The promotion mix is the assortment of communication tools employed by marketing professionals to sell their goods and services. The right promotion mix will depend on the marketing activities that the company has to perform to get its products or services sold. It includes all the manufacturers' activities to create awareness and lure customers to their products and services. The manufacturers use different channels to contact their customers, such as organizing trade fairs, using television, radio, newspapers and magazines to attract customers to their products and services (Ajay & Madan, 2018). Jiggles on the products and services can be played repeatable through media like television, radio to draw customers' attention to the products and services. Also, in libraries, channels like posters, organizing orientation, library week, book fairs, and using take always (T-shirts, Key holders) to draw users to the library information resources and services provided in the library. The basic objective of promotion activity include:

i. Building awareness
ii. Creating and sustaining differentiation
iii. Communicating the benefits
iv. Building and maintaining overall image and reputation of the services organization
v. Persuading users to use or buy the products

People

The quality and performance if its service personnel. The careful selection and training of its personnel. Because, hiring the right people is important for organizations performance, costs and legal obligations. People also refers to all staff working in the organisation. To a greater extent, people's behaviour in any organisation affects customers' satisfaction and achievement of the organisational goals. People as an element of the service marketing mix are the only mix where customers can interact directly. The type of

image customers' form from the interaction can promote or destroy the business reputation (Ajay & Madan, 2018).

Process of Services

Process: this refers to all the methods and activities a manufacturer uses to deliver goods and services to the customer on time. These methods may be automated, using new technology to provide products and services timely and maintain service standards to the users. The customers should be informed of the existence of the services and products before delivery. Physical Evidence: refers to physical attributes of the product from the sales of the product, which is derived from the interaction between the marketing staff and the customers. Customers form perceptual of the product from the physical outlook of the store and the planning of the service (Arunkumar & Ramani, 2018).

Physical Evidence

Physical evidence refers to the environment and facilities needed by libraries to provide services to their customers/users. It also covers all the tangible, visible touch points (complete environment) that your customer/users will encounter before they buy, there are two kinds of physical evidence i.e. Peripheral and Essential Evidence (Ajay & Madan, 2018).

Marketing Strategy

Marketing strategy plays an important role in any business; it is an outstanding technique that aids businesses thrive. Customer interaction is the core of any succeeded business, to maintain long relationships with customers and deliver organization promise to customers, marketing strategies and concepts need to be used by an organization to deliver the organization promise to customers (Varadarajanm 2010).

Marketing strategy can be defined as the total instrument and plans aimed at achieving the objectives of marketing services and products in an organisation. The marketing objectives inform you what you should do, but the marketing strategy provides and guides marketers on how to do it to achieve the business objectives or goals. According to Kotler and Armstrong (2010), "marketing strategy logic by which the business unit hopes to create customer value and achieve profitable customer relationships". The marketing strategy is centred on customer's needs and wants. As a marketer, you cannot serve or satisfy all your customers in the same way because there are individual differences in our needs and wants. Marketing strategy answers two questions: which customer will be served? And how do you create value for each? Developing a marketing strategy helps you know your customers' needs, identify your organisational goals, advertise a method for your targeted customers, and reach them on time.

Processes of Choosing Marketing Strategy for information products

Step 1: Identify the marketing goals of your firm: defining your organisation goals, aims and missions; find out your organisational strength and weaknesses. Your organizational mission statement and goals will help you determine the marketing goals you want to achieve, how to get the finances, the type of information users you are targeting, and how you will reach them (Lake 2019).

Step 2: Who are your intended target audience/information users: identify the information users you want to serve, where they are, their interests, preferred choices, educational background, language, income level, needs and wants. This will help you in the producing and distribution of your information products and services. You cannot publish a book for higher learning intuitions and take it to primary schools for sale. Nor can you establish an academic library in primary school and expect the pupils to patronize you; no, it cannot work (Lake 2019).

Step3: Select the right marketing strategy: choose the right approach to use in your marketing process based on your overall goals and the identified information users. Identify the best to serve the identified

customers bearing in mind that you have other competitors. Before selecting your marketing strategy, you must find out other competitors, both the existing and future ones (Lake 2019).

Step 4: Evaluate your strategy: always find out if the marketing strategy you choose meets the expected results. If the result is negative, you have to change the strategy and use another approach until you achieve your goals (Lake 2019).

Core marketing strategies

The following are core the core marketing strategies

a. Market Penetration
b. Market Development
c. Product Development
d. Product Diversification

Market Penetration

Market penetration is a marketing strategy that focuses on increasing market share and sales volume for an existing product or service within an existing market. The goal is to attract more customers from competitors or encourage current customers to make more frequent purchases. Market penetration typically involves aggressive pricing, advertising, sales promotions, and distribution tactics (Shaw 2021). Here are some key aspects of market penetration:

1. Pricing
2. Promotion
3. Distribution Channels
4. Product Improvements
5. Competitive Analysis
6. Customer Retention

Market development

Market development is a marketing strategy that focuses on entering new markets or expanding the customer base for existing products or services. It involves identifying and targeting new customer segments or geographic regions to generate additional sales and revenue (Kokemuller 2019). Market development can be achieved through various approaches:

1. Geographic Expansion: Expanding into new geographic areas or regions where the company's products or services are not currently available. This can involve opening new physical locations, partnering with local distributors, or establishing an online presence to reach customers in different regions.
2. New Demographic Segments: Identifying and targeting new customer segments that have not been previously served or have untapped potential. This may involve adapting marketing strategies, product features, or pricing to meet the specific needs and preferences of the new target audience.
3. Product Diversification: Introducing existing products or services to new market segments or industries. This requires understanding the unique needs and demands of the new market and adapting the product or service offering accordingly.
4. International Expansion: Expanding into international markets by entering foreign countries. This involves market research, understanding local cultures, regulations, and establishing distribution channels or partnerships in the target country.
5. Strategic Partnerships: Collaborating with other companies or organizations to enter new markets or leverage their existing customer base. This can include co-branding, joint marketing campaigns, or distribution partnerships to gain access to new customers.
6. Channel Development: Developing new sales channels to reach customers in different ways. This may involve selling through online platforms, establishing strategic alliances with retailers, or utilizing direct sales teams.

7. Promotional Activities: Conducting targeted marketing and promotional activities to raise awareness and generate interest in the new market. This can include advertising, public relations, trade shows, or digital marketing campaigns tailored to the new target audience.

Product development

Product development is a business strategy that involves creating and introducing new products or making significant improvements to existing products. It focuses on innovation and meeting the evolving needs and preferences of customers (Kokemuller 2019). Product development typically involves the following steps:

1. Idea Generation: Generating ideas for new products or improvements to existing products. This can be done through brainstorming sessions, market research, customer feedback, or technological advancements.
2. Idea Screening: Evaluating and screening the generated ideas to identify those with the highest potential for success. Factors such as market demand, feasibility, profitability, and alignment with the company's goals and resources are considered during this stage.
3. Concept Development and Testing: Developing a detailed concept for the new product, including its features, design, and target market. This concept is then tested with a sample of potential customers to gather feedback and make refinements.
4. Business Analysis: Conducting a thorough analysis of the potential market size, target customers, competition, pricing, and projected profitability of the new product. This helps assess the viability and financial feasibility of the product.
5. Product Development: Designing and developing the actual product based on the refined concept. This involves engineering, prototyping, manufacturing, and quality assurance processes to create a market-ready product.
6. Testing and Validation: Conducting rigorous testing and validation of the product to ensure it meets quality standards and customer expectations. This can include alpha and beta testing, usability testing, and collecting feedback from potential users.
7. Launch and Commercialization: Planning and executing the launch of the new product into the market. This includes developing marketing and promotional strategies, setting pricing, creating distribution channels, and ensuring adequate inventory.
8. Post-Launch Evaluation: Continuously monitoring the performance of the new product in the market and gathering customer feedback. This helps identify areas for improvement, address any issues, and make necessary adjustments to enhance the product's success.

Product Diversification

Product diversification is a business strategy that involves expanding a company's product offerings into new markets or industries. It aims to reduce reliance on a single product or market and capture additional sources of revenue and growth opportunities. Product diversification can be achieved through two main approaches:

1. Related Diversification: In related diversification, a company introduces new products or services that are related or complementary to its existing product line or target market. This allows the company to leverage its existing capabilities, resources, and customer base. For example, a cosmetics company introducing a new line of skincare products or a technology company expanding into software development.
2. Unrelated Diversification: In unrelated diversification, a company enters new markets or industries that are distinct from its existing products or target market. This involves venturing into entirely new business areas. For example, a food and beverage company entering the hospitality industry or a clothing retailer starting a home décor division.

Conclusion

The study concluded that marketing strategies are essential in conducting and excelling in any business publishing inclusive, and so, the publishing industry should strive to use the strategies effectively for the

conduct of their services and marketing of published work in this competitive world. Moreover, effective marketing strategies are crucial for promoting published work and reaching a wide audience. With the rise of digital platforms and the ever-expanding competitive landscape, authors and publishers need to adopt a comprehensive and dynamic approach to ensure the success of their books. By utilizing a combination of online and offline marketing tactics, authors can enhance visibility, engage with readers, and boost sales. It is important to remember that marketing is an ongoing process that requires continuous evaluation and adjustment to stay relevant in a rapidly changing industry.

Suggestions/Way forward

The following suggestions were made:

1. The publishing industries should organize a sensitization programs (seminars, workshops, symposium etc.) and invite marketing experts to provide more information on how to fully use the marketing strategies in this competitive work.
2. The publishing industries should consider themselves as real business firm not just an organization for educating or providing educational/informational tips in the society.
3. The publishing industries should develop a strong online presence and invest in a professional author website, create engaging content, and leverage social media platforms to connect with readers, share updates, and build a community around your work and also leverage email marketing i.e., build an email list of interested readers and utilize newsletters to provide exclusive content, sneak peeks, and promotional offers. Email marketing allows for direct communication and fosters a loyal reader base.
4. The publishing industries should collaborate with influencers and bloggers to dentify influencers, bloggers, and book reviewers within your target audience and collaborate with them to generate buzz around your work. Offer review copies, guest blog posts, or interviews to expand your reach and gain credibility and also organize book launch events, either in-person or virtually, to generate excitement and create a buzz around your work. Use this opportunity to engage with readers, sign copies, and create memorable experiences.

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IMPACT OF E-LEARNING ON PERFORMANCE AND MOTIVATION AMONG INTEGRATED SCIENCE STUDENTS IN KOGI STATE COLLEGE OF EDUCATION (TECHNICAL), KABBA

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Abstract
The study investigated the impact of e-learning on performance and motivation among integrated science students in Kogi State College of Education (Technical), Kabba. The study employed quasi experimental control group design. The experimental group was exposed to e-learning while the control group was exposed to conventional method. The population comprised of 120 NCE II students, out of which 90 students were randomly sampled and used for the study. Component of Environment Performance Test (CEPT) and Component of Environment Motivation Questionnaire (CEMQ) were used for data collection. Both instruments were duly validated and pilot tested giving a reliability coefficient of 0.83 and 0.82 respectively. The research questions were answered using descriptive statistics while the hypotheses were tested at $p \leq 0.05$ level of significance using t-test and Mann Whitney. The findings of the study revealed that students in the experimental group performed significantly better than their counterpart in the control group. Based on the findings, the study recommended among others that Lecturers at Universities, Polytechnics and Colleges of Education should adopt e-learning as a method of instructions since it enhances students' performance.

Keywords: E-learning, Performance, Motivation, Integrated Science.

Introduction

The Internet serves as a tool to facilitate the socio-economic, political, and educational advancement of any nation. It has become one of the most vital ways to make available resources for teaching and learning for both teachers and students to share and acquire information. The globalization of society through the internet is connected to remarkable developments in information technology and has given birth to the e-learning phenomenon, which broadens our horizons in teaching and learning and creates opportunities for all stakeholders in the teaching and learning process. E-learning involves the use of the internet and other important technologies to produce educational materials for teaching and learning, instruct learners, and also regulate courses in an organization. E-learning has become an essential method and a new innovation and paradigm that is widely used and implemented by educational institutions all over the world.

E-learning according to Kumar and Bajpai (2015) is an umbrella term that describes learning done at a computer, usually connected to a network (internet), giving the opportunity to learn almost anytime, anywhere. Alismail (2015) describes e-learning as a powerful tool that provides direct access to information and knowledge for effective teaching and learning. Tossy (2017) defines e-learning as the use,

acquisition, distribution, and facilitation of knowledge through the internet and computer. E-learning generally encompasses the use and application of information and communication technologies at web sites, personal computers, tablet, cell phones, learning management systems, and other ways to improve teaching and learning processes. Alismail (2015) opines that with e-learning leading to independent learning, teachers have the responsibility to guide students as they explore and obtain necessary knowledge and information in order to further develop such skills. Subsequently, without even knowing it, students "learn how to learn" and construct their own learning strategies that can last a lifetime.

The importance of e-learning in higher institutions of learning according to Holmes and Gardner (2006), Smedley (2010), Arkorful and Abaidoo (2014) include: e-learning provides institutions and students the flexibility of time and place of delivery. It enhances the efficacy of knowledge and qualifications via ease of access to huge amount information. It provides opportunity for interaction and relation among students through the use of discussion forum. E-learning is cost effective in the sense that there is no need for the students or learners to travel. It is also cost effective in the sense that it offers opportunities for learning for maximum number of learners with no need for many buildings.

A number of studies have been conducted on the use of e-learning. Studies like that of Holley (2012) indicate that e-learning systems permit instruction methods geared to improving top quality related to instruction and higher education students' academic achievement. Holley (2012) added that university students who generally participate in online or e-learning achieve far better amounts compared to university students who examine traditional methods. Keshavarz, Rahimi and Esmaili (2013) concluded that e-learning has a positive impact on the academic achievements of students. Mahmoodi (2015) found that the use of e-learning in the physiology teaching-learning process improves students learning and creativity. Mothibi (2015) found a significant impact of e-learning on students' performance. Elfaki, Abdulraheem, and Abdulrahim (2019) examined the impact of e-learning on the students' academic performance and found that the average score of students exposed to e-learning was higher and statistically significant than the average score of students in the control group. Jawad and Shalash (2020) found statistically significant differences in the students' academic achievements during the implementation of the e-learning strategy.

Algahtani (2011) and Mahmoodi (2015), identifies six (6) models of e-learning. These six models are:

1. E-learning with Physical Presence and without E-communication (face-to-face)
2. E-learning without Presence and without E-communication (self-learning)
3. E-learning without Presence and with E-communication (asynchronous)
4. E-learning with virtual Presence and with E-communication (synchronous)
5. E-learning with occasional Presence and with E-communication (blended/hybrid-asynchronous)
6. E-learning with Presence and with E-communication (blended/hybrid-synchronous) Therefore, this study adopted E-learning with virtual Presence and with E-communication (synchronous) model

In spite of the importance of e-learning for students' performance in higher institutions of learning, a number of universities, polytechnics, and colleges could not meet the ICT facilities required for effective curriculum delivery through e-learning. Shekari (2010), Mahdinejad and Amoii (2011), and Ansari, Alas and Guan (2016) identified the major challenges to effective utilization of ICT facilities for the teaching-learning process in tertiary education institutions as: inadequate supply of computer hardware and software; irregular power supply; limited training opportunities for teachers; low level of institutional partnership with professional and corporate bodies for technical support; poor funding and maintenance. The challenges identified are inimical to effective teaching and learning processes. Mahdinejad and Amoii (2011) and Ansari, Alas and Guan (2016) observed that the majorities of the students lack knowledge and skills in information and communication technology. Mahdinejad and Amoii (2011) added that adequate provision of information and communication technology facilities and better management of available information and communication technology facilities were identified as the means to improve information

and communication technology facility utilization in tertiary institutions to enhance students' academic performance and motivation. Yahiaou and Brika (2022) reported that e-Learning is a key strategy in the course of higher institutions to improve the results of the educational learning process and stimulate students' motivation.

Motivation is a vital aspect of the educational process and is considered an indispensable element that offers guidance, inspires, and maintains a constructive attitude toward a shared goal. Espinar and Ortega (2015) define motivation as what inspires students to dedicate time to a certain task freely. Filgona, Sakiyo, Gwany and Okoronka (2020) described motivation as students' attitudes and feelings about the activity, as well as how long they remain committed to the task. Keller (2010) identified four categories of motivation that stimulate and keep motivating the learners to learn. The four categories include attention, relevance, confidence and satisfaction. The first step according to Keller (2010) is to maintain learners' curiosity and interest (Attention), the second step is to convince the learner that his or her experience is personally meaningful (Relevance), the third step is to convince the learners that they can understand the material and accomplish a task (Confidence), and the last step is to be sure that learners feel good about what they did (Satisfaction). Herath, Bano and Vasantha (2021) found that e-Learning had positive effects on students' motivation and active participation in the learning process. Based on this background, therefore, this study examined the impact of e-learning on performance and motivation among integrated science students of Kogi State College of Education (Technical), Kabba.

Purpose of the Study

The purpose of the study was to examined the impact of E-learning on performance and motivation among integrated science students in Kogi State College of Education (Technical) Kabba. Specifically, the objectives of the study were to:

i. Examine the impact of E-learning on students' performance in Kogi State College of Education (Technical), Kabba.
ii. Investigate the impact of E-learning on students' motivation level in Kogi State College of Education (Technical), Kabba.

Research Questions

The following research questions guided the study:

1. What is the difference between the mean performance scores of integrated science students exposed to E-learning and those exposed to conventional method?
2. What is the difference between the motivation level of integrated science students exposed to E-learning and those exposed to conventional method?

Research Hypotheses

The study formulated and tested the following research hypotheses at $P \leq 0.05$ level of significance:

1. There is no significant difference between the mean performance scores of integrated science students exposed to E-learning and those exposed to conventional method.
2. There is no significant difference between the motivation level of integrated science students exposed to E-learning and those exposed to conventional method.

Methodology

The study employed quasi-experimental control group design involving pre-test and post-test. The population of the study comprised of 120 NCE II Integrated Science students at Kogi State College of Education (Technical), Kabba who were in the first semester of the 2022/2023 academic session. A total of 90 students that had been divided equally into two groups 45 each formed the sample of the study. The first group was assigned the experimental group and the second group was assigned the control group. Before entering the educational intervention, both groups were pre-tested on performance and motivation. The reason for taken the pre-test was to ensure that students in the experimental and control groups were similar

with regard to their academic performance and motivation level. The result of the pretest showed that there is no statistically significant difference between the mean of the two groups regarding their pretest outcome. Selection of the study subject from each group was depended on the scores obtained by the students. The first 45 students who had the highest scores were selected from each group to participate in the study.

The experimental group was exposed to E-learning, and the content of the course on Component of the Environment was presented through electronic and synchronous learning. This was presented in the form of training software, and the software was designed to promote synchronous learning through E-learning. The control group was also taught the same course content using conventional method. At the end of six weeks, a posttest on the performance and motivation were administered to both groups to determine their performance and motivation level. Two instruments were used for data collection: Component of Environment Performance Test (CEPT) and Component of Environment Motivation Questionnaire (CEMQ). The two instruments were duly validated, and the reliability coefficient were found to be 0.83 and 0.82 respectively. The data collected from the administration of the instruments were entered and analysed using SPSS version 23.0 statistical software. The research questions were answered using descriptive statistics, while the research hypotheses were tested at $P \leq 0.05$ using t-test and Mann Whitney.

Results

Research Question One: what is the difference between the mean performance scores of integrated science students exposed to E-learning and those exposed to conventional method?

Research question one was answered using the data generated from post-test scores of students in experimental and control groups on Component of Environment Performance Test. The data were subjected to descriptive statistics of mean and standard deviation. The summary of the analysis is presented in Table 1.

Table 1: Summary of Mean and Standard Deviation of Post-test Mean Performance Scores of Students in Experimental and Control Groups

Groups	N	M	S.D	S.E	Mean Diff.
Experimental	45	43.09	2.82	0.42	19.84
Control	45	23.24	3.66	0.55	

Table 1 shows the summary of descriptive statistics of mean performance scores of students to exposed to e-learning (experimental group) and those exposed to conventional method (control group). The mean scores of the experimental and control groups were 43.09 and 23.24 respectively, with a mean difference of 19.84. The mean score of students in the experimental group exposed to e-learning is statistically higher than the mean score of the control group exposed to e-learning. This implies that the use of e-learning affects students' learning positively and improved their performance.

Hypothesis One: There is no significant difference between the mean performance scores of integrated science students exposed to E-learning and those exposed to conventional method.

Research hypothesis one was tested using the data generated from post-test scores of students in experimental and control groups on Component of Environment Performance Test. The data were subjected to t-test statistical tool. The summary of the analysis is presented in Table 2

Table 2: Summary of t-test Analysis of Mean Performance Scores of Students in Experimental and Control Groups

Group	N	M	S.D	Df	t-Cal	p-value	Remark
Experimental	45	43.09	2.82				
				88	28.80	0.01	**Significant**
Control	45	23.24	3.66				

Significant at p≤0.05 level

Table 2 shows the summary of t-test analysis of the performance scores of students exposed to e-learning (experimental group) and those exposed to conventional method (control group). From Table 2, it was observed that (t = 28.80, df = 88, p = 0.01). The p-value of 0.01 is less than 0.05 level of significance. This implies that there is statistically significant difference between the performance of students exposed to e-learning and conventional method. The significant difference is in favour of students exposed to e-learning. Therefore, the research hypothesis which states that there is no significant difference between the mean performance scores of integrated science students exposed to E-learning and those exposed to conventional method is hereby rejected.

Research Question Two: What is the difference between the motivation level of integrated science students exposed to E-learning and those exposed to conventional method?
Research question two was answered using the data generated from post-test scores of students in experimental and control groups on Component of Environment Motivation Questionnaire. The data were subjected to descriptive statistics of mean rank and sum of ranks. The summary of the analysis is presented in Table 3.

Table 3: Summary of Mean Motivation Scores between Experimental and Control Groups

Group	N	Mean Rank	Sum of Ranks	Mean Rank Diff
Exp.	45	39.90	811.00	
				23.50
Contr.	45	16.40	565.00	

Table 3 shows that students exposed to e-learning (experimental group) and conventional method (control group) recorded the mean rank scores of 39.90 and 16.40 respectively, with a mean rank difference of 23.50 in favour of experimental group. This implies that students exposed to e-learning had higher level of motivation than their counterpart who were exposed to conventional method. In order to ascertain whether the difference is statistically significant, the data was subjected to Mann Whitney U-test.

Hypothesis Two: There is no significant difference between the motivation level of integrated science students exposed to E-learning and those exposed to conventional method.

In order test hypothesis two, the data obtained from post-test scores of students in experimental and control groups on Component of Environment Motivation Questionnaire. The data were subjected to Mann Whitney U-test. Summary of the analysis is presented in Table 4.

Table 4. Summary of Mann-Whitney U-test of Experimental and Control Groups

Group	N	Mean Rank	Sum of Ranks	U-test	p-value	Remark
Exp.	**45**	39.90	711.00			
				965.00	**0.01**	**Significant**
Contr.	**45**	16.40	465.00			

Table 4 reveals the summary of Mann Whitney U-test analysis of motivation scores of students in the experimental and control groups. From Table 4, p-value of 0.01 was obtained. The p-value of 0.01 is less than 0.05 level of significance. This implies that there is a significant difference in the motivation level of students exposed to e-learning and their counterpart exposed to conventional method. Therefore, the hypothesis which states that there is no significant difference between the motivation level of integrated science students exposed to E-learning and those exposed to conventional method is hereby rejected.

Discussion of Findings

The study investigated the impact of e-learning on performance and motivation among integrated science students of Kogi State college of Education (Technical), Kabba. The study established through pretest that the subjects in both groups (experimental and control) had equivalent knowledge. The results of the data analysis on the research questions and hypotheses are hereby discussed.

Findings from the research question one and hypothesis one as presented in Tables 1 and 2 revealed that there is a statistically significant difference between the mean performance scores of students exposed to e-learning and those exposed to conventional method. The difference is in favour of students exposed to e-learning. The reason for high performance of the experimental group is based on the treatment given to the students that group. This finding agreed with that of Holley (2012), Keshavarz, Rahimi and Esmaili (2013), Mahmoodi (2015), Mothibi (2015), Elfaki, Abdulraheem, and Abdulrahim (2019), and Shalash (2020) reported that e-learning has a positive impact on performance and significantly improved students' academic performance and learning process. The authors added that students who were exposed to E-learning achieve better grades than those exposed to conventional method.

Findings form the research question two and hypothesis two as presented in Tables 3 and 4 revealed that there is a statistically significant difference between the motivation level of students exposed to e-learning and their counterpart exposed to conventional method. The difference is in favour of experimental group exposed to e-learning. The finding is in conformity with the findings of Arkorful and Abaidoo (2014) and Kumar and Bajpai (2015) who reported that e-learning has a positive impact on students' motivation level. The authors added that e-learning motivates students to interact with each other, as well as exchange and respect different point of views. The finding is also in line with the findings of Yahiaou and Brika (2022) who reported that e-Learning is a key strategy in the course of higher institutions to improve the results of the educational learning process and stimulate students' motivation.

Conclusion

Based on the findings of this study, it was concluded that e-learning had positive impact on students learning outcomes, and significantly improved students' performance. It was also concluded that e-learning stimulates students' motivation and help students to interact with on another.

Recommendations

Based on the findings of the study, the following recommendations were drawn:

1. Workshops, conferences, seminars and training should be organized for lecturers on the implementation of e-learning so as to improve lecturers' knowledge on the use of e-learning, thereby enhancing students' performance.
2. Lecturers at Universities, Polytechnics and Colleges of Education should adopt e-learning as a method of instructions since it enhances students' performance.

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ASSESSMENT OF DIGITAL REFERENCE SERVICE TECHNOLOGIES FOR PROVISION, ACCESS AND UTILISATION OF INFORMATION RESOURCES AND SERVICES BY THE LIBRARY STAFF AND STUDENTS OF AHMADU BELLO UNIVERSITY DISTANCE LEARNING CENTRE

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Abstract

The emergence of information and communication technologies dramatically impact people's living culture and work life in ways never imagined before. Digital reference technologies are information communication technologies use to render reference and information resources and services virtually. This study investigated the over eight years of using digital reference technologies to facilitate access and utilisation of information resources and services by students of the Ahmadu Bello University Distance Learning Centre (ABUDLC) using four research objectives to find out the types of digital reference technologies use to facilitate access and utilisation of information resources and services by ABUDLC students, to ascertain whether the digital reference technologies used were suitable for the provision of access and utilisation of information resources and services by students of ABUDLC, to know the extent of satisfaction with the information resources and service provided using digital reference technologies to students of ABUDLC and to reveal challenges encountered by the library staff and students of ABUDLC in using digital reference technologies for the provision of, access and utilisation of information resources and services. Positivism research paradigm was used for the study. The population of the study was made of 7,000 postgraduate and undergraduate students and 4 library staff of the ABUDLC. Using a simple random sampling technique, a sample size of 374 was drawn from the population. Data was collected using structure questionnaire, and analysed using frequency count, percentage, mean and standard deviation. Some of the finds are: The common types of digital reference technologies use to facilitate access and utilisation of information resources and services by the ABUDLC students were co-browsing, text & video base chat such as telegram, Whatsapp and the likes, Elibrary software. Other types used were instant messaging, Email and Calibre. The study revealed that online pathfinders are highly suitable due to their perceived usefulness, followed by Instant Messaging due to the intended use for them and Email because of its perceived ease of use. ABUDLC Library Staff have challenges with using web form and Real-time reference; the least challenge was with using Telephone and Co-browsing. The students have challenge with using online pathfinders, Elibrary and Instant Messaging to access information resource and services. It was concluded and recommended that, there is still need to keep assessing what we practice and explore better ways to understand and serve our users better and there is need for the ABUDLC Library to increase awareness and use of less used digital reference technologies and to also fabricate its own digital reference solution such as robot aided reference service solution, design web form and explore Voice over IP for the benefits of its students among other recommendations.

Introduction

The emergence of information and communication technologies dramatically impact people's living culture and their work life in ways never imagined before. In the library and information work space for instance,

myriad concepts, innovations and upgrade have emerged in the areas of "library automation", "digital information resources collaboration", "smart library", "cloud storage" and "digital reference service" setting agenda for new normal in operation, processing, formats of information resources, storage, dissemination and service delivery (Rathinasabapathy, Veeranjaneyulu& Srinivasa, 2021). In the aspect of service delivery, digital reference service technologies being the focal point of this investigation, is referred to as the art and science of transmitting library information resources and services to clientele remotely without having to be physically present in the library with the aid of telecommunication technologies just as it is being practiced by banks offering financial services outside the conventional banking hall(Chandwani, 2018). The philosophy ensures that irrespective of the remote location of the user, the traditional determinants of access to information such as boundary, distance, cost and time have less or no material consequences in defining where and how library information resources and services are accessed and utilised so long, the user fulfil the preconditions (Ashikuzzaman, 2023). Online distance learning students enjoy digital reference services via technologies adopted or created for the purposes of supporting them by ensuring that they are not deprived of reliable information resources and services due to peculiarity of their mode of study. In this version of the digital reference technologies study, the researchers used positivism paradigm and Technology Acceptance Model (TAM) to reveal how the digital reference technologies are being conveniently used for access and utilisation of information resources and services by students of the Ahmadu Bello University Distance Learning Centre.

Ahmadu Bello University Distance Learning Centre

The mounting of distance learning in Ahmadu Bello University was necessitated by internal demand and external pressure initiated by the School of Postgraduate Studies as well agitations by some alumni as exemplified at the 50th anniversary by Mallam Adamu Fika in his lead paper to mark ABU's golden jubilee where he said *"ABU should consider developing an effective Distance Learning System that deploys modern communication facilities and online tutorial to impact functional knowledge to the millions who may not be able to enroll on its regular campus-based programmes".*

Annually, an average of 13,000 applicants applied for various postgraduate programmes in the Ahmadu Bello University, although about 70% of these were qualified, less than 5, 000 are usually Admitted due to the limitation of on-campus facilities. The situation is even worse with the undergraduate programmes where 31,000 applicants to Ahmadu Bello University scored the minimum JAMB requirement of 180 points. Less than 10,000 of these can be admitted due to the same reason. It is thus obvious that ABU has not been able to satisfy the demands for those interested in obtaining ABU degrees. It has also been noted that Nigeria has been credited to be among the countries with the highest number of students studying abroad with about 71,000 studying in Ghana alone and paying not less than 155 billion Naira as tuition annually. ABU should cash on this opportunity to increase its relevance as well as revenue base. In an on campus model, there are obviously limits to how many additional students can be admitted (ABUDLC Students Hand Book, 2023).

Ahmadu Bello University Distance Learning Centre Library

The ABUDLC library was established to support teaching, learning, research and promotion of library and information literacy among the centre's staff and students. It maintains traditional prints of textbooks, periodicals, newspaper backset and digital collections accessed via www.elibrary.abudlc.edu.ng. With over 5,000 uploaded ebooks, past questions and audio-visual resources, the library maintains unhindered access to the great Kashim Ibrahim Library collections particularly; its digital repository, Arabic resources, special collections, United Nations collections in addition to open and subscribed databases to mention but few. These resources cover the information need of staff and students of the seventeen programmes currently run by the centre. (ABUDLC, n.d).

Problem Statement

The primary goal of the library is to meet the information demand of its clientele through the robust collection of acquired, processed, organised and stored information resources for the benefits of the user.

These information resources are accessed physically and remotely by students, lecturers, staff and the entire community the library serves. At the Ahmadu Bello University distance learning centre (ABUDLC), the students are remotely located. This implies that, to ensure that the students are adequately provided library information resources and services the application of digital reference technologies is obviously inevitable. Digital reference service is not confined to the traditional reference environment but extended to remote users with the aid of information and communication technology. Sometimes it is termed as e-reference service, Virtual reference service; its central objective is to provide pin-pointed, exhaustive, expeditious service to its information seekers whenever they have a query. For more than eight years now, the ABUDLC Library have being using digital reference technologies to facilitate access and utilisation of information resources and services by its students and there has not been an empirical investigation to show weather the students truly accept the service mode, or encounter challenges, or find the digital reference services suitable for their information access and utilisation, or they find the technologies used satisfactory and therefore, reliable. This study is right on time, to investigate the speculations using positivism paradigm and Technology Acceptance Model (TAM) as a lens.

Research Objectives

The following objectives guided the investigation:

1. To find out the types of digital reference technologies use to facilitate access and utilisation of information resources and services by ABUDLC students
2. To ascertain whether the digital reference technologies used were suitable for the provision of access and utilisation of information resources and services by students of ABUDLC
3. To know the extent of satisfaction with the information resources and service provided using digital reference technologies to students of ABUDLC
4. To reveal challenges encountered by the library staff and students of ABUDLC in using digital reference technologies for the provision of, access and utilisation of information resources and services.

Significance of the Study

This study provides assessment results of more than eight years of using digital reference technologies for facilitating access and utilisation of information resources and services at the ABUDLC Library. The result will aid in making important decisions by the management that will lead to addressing challenges and improve the provision of effective and efficient library and information services to staff and students of the centre. The outcome of this study will affirm or disaffirm the application of TAM in explaining suitability, acceptability and utilisation of digital reference technologies for the provision information resources and services students of ABUDLC. This study addresses the paucity in literature on the utilisation of digital technology in delivering information resources and services to students at ABUDLC. Scholars, researchers and students of library and information science who are interesting in studying reference technologies and services will find this study useful.

Scope of the Study

This study covers the assessment of digital reference services technologies for the provision of, access and utilisation of information resources and services by the library staff and students of Distance Learning Centre in Ahmadu Bello University, Zaria. The respondents of the study are the library staff and the entire postgraduate and undergraduate students of the centre.

Limitation of the Study

This study is affected by the small number of library staff of the centre due to the small size of the library.

Literature Review

Concept of Reference Services

Reference service is the supreme and ultimate function of the library. It is in fact the hub of all library activities and sometimes referred to as ‘reference and information services’ or ‘reader services’

(ISLM,2016). Reference service equally encompasses the assistance given in the use of resources of the library". This submission is affirmed by James I. Wyer, who maintains that Reference service is that part of library administration which deals with the assistance given to the readers in their use of the resources of the library. For Margaret Hutchins, it includes the direct, personal aid within a library to persons in search of information for whatever purpose and also various library activities specially aimed at making information as easily available as possible. Samuel Rothstein aligns his position with James I. Wyer and Margaret Hutchins by looking at Reference service as the personal assistance given by the libraries to individual readers in pursuit of information. Their positions is succinctly articulated by S.R. Ranganathan in his definition of reference service as the process of establishing contact between a reader and his documents in a personal way (Huling, 2019).

Furthermore, the term "reference service" is defined simply as personal assistance provided to library users seeking information. Individuals who hold a master's degree in the field of library and information sciences or information studies typically provide the service. Reference librarians are variously referred to as "mediators between the user and the information" and "navigators of the information super-highway." Reference service traditionally has been offered in person at a designated desk within the library building, over the telephone, and through correspondence.

More recently, libraries have expanded to offer reference service electronically via the World Wide Web, e-mail, and even two way video conferencing technologies. Another form of reference service is classroom and one-on-one instruction in the use of print and electronic resources. Regardless of the delivery method, the value of reference service remains the same: to provide quality information through personalized service to library users at the time of need. Reference service is characterized by human interaction.

Bunge (1999) as cited by Oluwabiyi (2017) categorized reference services into four broad groups, namely: 1. Information services that involve either finding the required information on behalf of the users or assisting users in finding information. 2. Instruction in the use of Library resources and services (broadly defined as information literacy skills); and 3. User guidance, in which users are guided in selecting the most appropriate information sources and services

Philosophies of Reference Service

The goal of the reference librarian is to meet the individual need of the user to the fullest extent possible. How and to what extent this is done varies from library to library and depends on the type of library. Academic libraries focus on teaching users how to find information, special libraries primarily find information and package it for their users, and public libraries practice some of both approaches. Special libraries (e.g., for governments, corporations, museums, and newspapers) emphasized locating information over building and maintaining extensive collections. These were the first type of libraries to make use of online databases to identify appropriate resources. Limits of staffing, subject expertise, and resources prohibit most public and academic libraries from providing similar in-depth service. In his textbook, Wyer (1930) identified three concepts of reference work. The conservative philosophy instructs users in how to find the information on their own. The liberal philosophy holds that the reference librarian should locate the information for the user and provide it in the form needed. The moderate philosophy recognizes that maximum assistance will be offered based on a combination of library staffing, resources, time factors, and user need. The latter approach balances the instructional function with the full-service mode. Debates on these issues raged in the 1960s and 1970s, but they have abated as reference librarians have determined that a balanced approach takes into account the needs of the user at a particular time.

Digital Reference Services Technologies

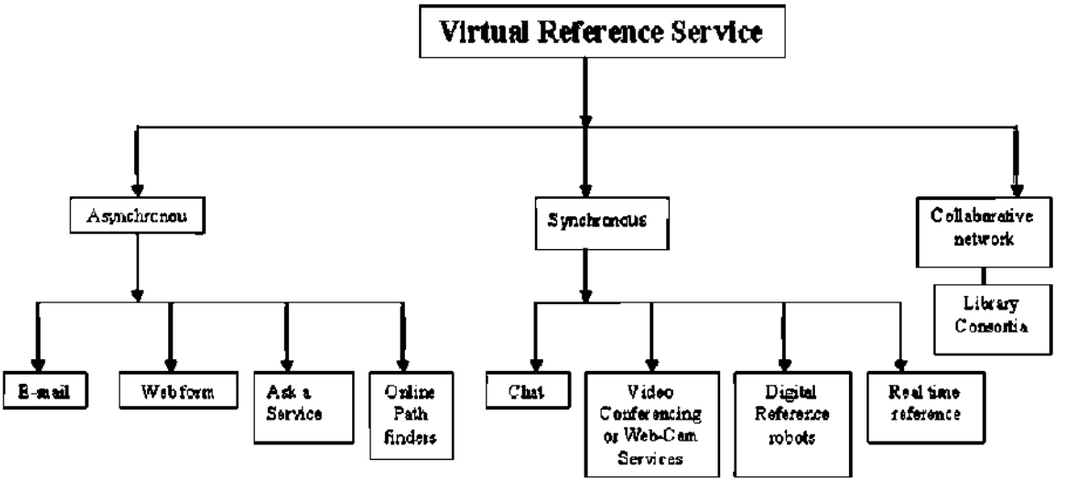
According to Oluwabiyi (2017) the terms digital and virtual are applied to the use of computer-based technology. Library professionals use both terms, and everyone agrees that digital/virtual reference is a new type of service based on the same question-and-answer type of assistance provided in traditional in-person

reference. Sloan (2012) opined digital reference service is the collaboration between library user and the librarian, in an ICT mediated media such as including email, Web forms, chat, video, Web customer call center software and Voice over Internet Protocol used to provide answer services that connect users with experts and subject expertise.

Similarly, Berube (2003) shares the view that digital reference service is a network of expertise intermediation and resources placed at the disposal of someone seeking answers in an online environment. Digital reference provide support for open distance and eLearning students who find online tools and resources unfamiliar, difficult to learn, or insufficient to answer their information needs. It provides valuable user feedback to collection builders so that they may better tailor their resources and maximize their investment in content creation.

Mode of Digital Reference Services

User behavior is changing and information provision has to follow new modes of delivery. Hence, there are new modes of delivery in digital reference services. According to Francoeur (2002), the mode for digital reference services can be divided into two broad categories. They are namely: 1) Asynchronous transactions – e-mail, web forms, Ask A services etc. 2) Synchronous transactions – chat reference using simple technologies, chat reference using web contact software, video conferencing or web camera services, and digital reference robots.



Source: Maharana and Panda (2005, p.3)

Research Methodology

Positivism research paradigm was used for the study. Positivism is a paradigm that relies on measurement and reason, that knowledge is revealed from a neutral and measurable (quantifiable) observation of activity, action or reaction. Positivism states that if something is not measurable in this way it cannot be known for certain. In positivism studies the role of the researcher is limited to data collection and interpretation in an objective way and depends on quantifiable observations that lead to statistical analyses (Collings, 2010). The population of the study was made of 7,000 postgraduate and undergraduate students and 4 library staff of the ABUDLC. Using a simple random sampling technique, a sample size of 374 was drawn from the population. Data was collected using structure questionnaire, and analysed using frequency count, percentage, means and standard deviation.

Data Presentation, Analysis and Discussion

The Data collected was analysed using tabular presentation and frequency count. Out of the 374 copies of questionnaire administered 344 were retrieved and found valid for further analysis and discussion.

Table 1: Types of digital Reference Technologies Use to Facilitate Access and Utilisation of Information Resources and Services by ABUDLC Students

s/n	Types of Digital Reference Technologies Use to Facilitate Access and Utilisation of Information Resources and Services by ABUDLC Students	Frequency	Percentage (%)
1	Elibrary software	100	29.1
2	Email	38	11.0
3	Telephone	20	5.8
4	Text & Video bases chat: Telegram, Whatsapp	116	33.7
5	Web form	-	-
6	Digital reference robot	-	-
7	Real-time reference	23	6.7
8	Online pathfinders	18	5.2
9	Voice over IP	-	-
10	Co-browsing	134	38.9
11	Instant Messaging	56	16.3
12	Calibre	37	10.8

Table 1 shows the common types of digital reference technologies use to facilitate access and utilisation of information resources and services by ABUDLC students are co-browsing134(38.9%) followed by text & video bases chat such as telegram, Whatsapp and the likes 116(33.7%) and Elibrary software 100(29.1%). Other types are instant messaging 56(16.3%), Email 38(11.0%) and Calibre 37(10.8%).

Table 2: Suitability of the Digital Reference Technologies Used for the Provision of Access and Utilisation of Information Resources and Services by Students of the ABUDLC

s/n	Suitability of Digital Reference Technologies Use to Provide Access and Utilisation of Information Resources and Services to Students by the ABUDLC	HS	S	NS	T	M	SD
1	Elibrary software because of its perceived usefulness	43	107	5	155	77.5	1.3328
2	Email because of the perceived ease of use	54	202	33	289	144.5	2.4442
3	Telephone because of its perceived usefulness	98	8	78	184	92.0	1.4492
4	Text & Video chat technologies: Telegram, Whatsapp, Zoom for intended use	189	67	7	263	131.5	2.3168
5	Web form due to its perceived usefulness	5	0	213	218	109.0	2.4601
6	Digital reference robot due to its perceived ease of use	65	100	109	274	137.0	1.8656
7	Real-time reference for intended use	167	103	13	283	141.5	2.2705
8	Online pathfinders due to its perceived usefulness	100	163	54	317	158.5	2.2944

9	Voice over IP due to its ease of use	78	54	42	174	87.0	1.1979
10	Co-browsing due to its perceived usefulness	2	16	176	194	97.0	2.0407
11	Instant Messaging due to its intended use	234	56	7	297	148.5	2.7794
12	Calibre due to its perceived usefulness	165	100	19	284	142.0	2.2386

Key: **HS**-Highly Suitable, **S**-Suitable, **NS**-Not Suitable, **T**-Total, **M**-Mean, **SD**-Standard Deviation

Table 2 reveals the suitability of digital reference technologies use for the provision of access and utilisation of information resources and services by students of the ABUDLC. Online pathfinders are highly suitable due to its perceived usefulness with Mean score of 158.5(SD=2.2944) followed by Instant Messaging with Mean score of 148.5(SD=2.7794) due to tis intended use and Email with Mean score of 144.5(SD=2.4442) because of the perceived ease of use. Other notable ones are Real-time reference with Mean score of 141.5(SD=2.2705), Calibre with Mean score 142.0(SD=2.2386), digital reference robot with Mean score of 137.0(SD=1.8656) and Text & Video chat technologies: Telegram, Whatsapp, Zoom 131.5(SD=2.3168).

Table 3: Extent of Satisfaction with the Information Resources and Service Provided Using Digital Reference Technologies by Students of the ABUDLC

s/n	Extent of Satisfaction with the Information Resources and Service Provided Using Digital Reference Technologies by Students of the ABUDLC	HS	S	NS	T	M	SD
1	Remote Enquiry Services	234	59	3	296	148.0	2.4134
2	Catalogue on Web	214	76	5	295	147.5	2.2714
3	Dedicated Web Sites	109	22	43	174	87.0	1.1922
4	FAQs Page	-	-	-	-	-	-
5	Interactive Services	214	76	8	298	149.0	2.2723
6	Resources Remotely Available	198	16	7	221	110.5	1.9876
7	Links to Other OPACs	102	45	65	212	106.0	1.2905
8	Current Awareness Service	204	57	9	270	135.0	2.1200
9	Selective Dissemination of Information	45	76	100	221	110.5	1.3342
10	Document Delivery	234	59	3	296	148.0	2.4134
11	Inter-Library Loan	107	100	39	246	123.0	1.5155
12	Directional service	209	35	45	289	144.5	2.1663
13	Ready Reference	219	43	23	285	142.5	2.2436
14	Readers Advisory Service	25	178	100	303	151.5	2.0569
15	Provision of Access to ebook, ejournal & Databases	226	80	1	307	153.5	2.3974
16	Information Literacy	178	89	14	281	140.5	1.9950

Key: **HS**-Highly Satisfied, **S**-Satisfied, **NS**-Not Satisfied, **T**-Total, **M**-Mean, **SD**-Standard Deviation

Table 3 disclosed response on the extent of satisfaction derived with the Information Resources and Service Provided Using Digital Reference Technologies by Students of the ABUDLC. The students were Highly satisfied with Provision of Access to ebook, ejournal & Databases with Mean score of 153.5(SD=2.3974) followed by Readers Advisory Service with Mean score of 151.5(SD=2.0569) and Interactive Service with Mean score of 149.0(SD=2.2723). Other information resources and services satisfaction was derived from using digital reference technologies were Remote Enquiry Services and Documentary Delivery with Mean

scores of 148.0(SD=2.4134), Catalogue on web with Mean score of 147.5(SD=2.2714), Directional Service 144.5(SD=2.1663) and Ready Reference with Mean score of 142.5(SD=2.2436).

Table 4a: Challenges Encountered by the Library Staff in Using Digital Reference Technologies for the Provision of Access to Information Resources and Services

s/n	Challenges Encountered by the ABUDLC Library Staff in Using Digital Reference Technologies for the Provision of Access to Information Resources and Services	Frequency	Percentage (%)
1	Elibrary software	2	0.6
2	Email	-	-
3	Telephone	1	0.3
4	Text & Video bases chat: Telegram, Whatsapp	-	-
5	Web form	4	1.2
6	Digital reference robot	-	-
7	Real-time reference	3	0.9
8	Online pathfinders	2	0.6
9	Voice over IP	-	-
10	Co-browsing	1	0.3
11	Instant Messaging	-	-
12	Calibre	-	-

Note: The library staffs were four (4) at the time this data was collected

Table 4a x-rays thedigital reference technologies ABUDLC Library Staff have challenge with using them to provide access to information resources and services to students. They have challenges with using web form 4(1.2%) followed by with Real-time reference 3(0.9%), the least challenge was with using Telephone and Co-browsing with 1(0.3%) each.

Table 4b: Challenges Encountered by Students of the ABUDLC in Using Digital Reference Technologies to Access and Utilise Information Resources and Services

s/n	Challenges Encountered by the ABUDLC Library Staff in Using Digital Reference Technologies for the Provision of Access to Information Resources and Services	Frequency	Percentage (%)
1	Elibrary software	116	33.7
2	Email	-	-
3	Telephone	20	5.8
4	Text & Video bases chat: Telegram, Whatsapp	16	4.7
5	Web form	-	-
6	Digital reference robot	-	-
7	Real-time reference	-	-
8	Online pathfinders	124	36.0
9	Voice over IP	107	30.2
10	Co-browsing	18	5.2
11	Instant Messaging	10	2.9
12	Calibre	37	10.8

Table 4b elucidates the digital reference technologies ABUDLC students have challenges with in using them to access information resources and services provide for them by the ABUDLC Library. From the responses, the students have challenge with using online pathfinders with 124(36.0%) followed by Elibrary with 116(33.7%) the least challenge with the technologies was Instant Messaging with 10(2.9%). Other notable challenges were with using Voice over IP with 107(30.2%) and Calibre 37(10.8%).

Discussion of Findings

1. The common types of digital reference technologies use to facilitate access and utilisation of information resources and services by the ABUDLC students were co-browsing, text & video base chat such as telegram, Whatsapp and the likes, Elibrary software. Other types used were instant messaging, Email and Calibre. It is common practice that most academic libraries employ the combination of social media, telecommunication technologies such as telephone and other communication medium such as email to render digital reference, in fact, most libraries providing this type of service use them (Daniel & Raymond, 2023). Some of the reasons for adopting existing technologies to provide digital reference service are advanced by Davis (1993) as perceived ease of use and usefulness. This implies that technologies such as the ones indicated in this study are used due to their simplicity, purpose and least effort to operate them. However, what is not reported in this finding are web form, digital reference service and robot facilitated reference service. With the burgeoning students of the ABUDLC there will be need for them in the near future to manage response time and increased satisfaction.

2. The study revealed that online pathfinders are highly suitable due to their perceived usefulness, followed by Instant Messaging due to the intended use for them and Email because of its perceived ease of use. Other notable ones were Real-time reference, Calibre, digital reference robot and Text & Video chat technologies: Telegram, Whatsapp, Zoom. In a related study conducted by Angel & Dickson, (2022) in an academic library in Hong Kong it was found out that Whatsapp is the most preferred Virtual Reference Service due to its convenience, response immediacy, textual record, and minimal learning efforts. Phone, email, and Zoom are less preferred due to users' perceived embarrassment, formality, and time constraints. Obviously, the preference for a type of digital reference technology by a library or its user is consciously dictated by its ubiquity, perceived ease of use and intention. This proves that the ABUDLC students invariably share similar reasons for using certain technologies to access reference information resources and services (Davis, 1993, 1989).

3. The students were highly satisfied with Provision of Access to ebook, ejournal & Databases followed by Readers Advisory Service and Interactive Service. Other information resources and services satisfaction was derived from using digital reference technologies were Remote Enquiry Services and Documentary Delivery, Catalogue on web, Directional Service and Ready Reference. The increasing use of virtual reference to access relevant document, make enquiries and use navigation guides have equally been reported by scholars recently(Adetomiwa, 2020; Imam & Maria, 2023). The ABUDLC students require every bit of relevant information and enabling services at their disposal. This finding proves they have unhindered access to the library information resources and extended services from mother library (Kashim Ibrahim Library). However, FAQs are not being accessed by the students as at the time this finding was reported.

4. ABUDLC Library Staff had challenges with using web form followed by with Real-time reference; the least challenge was with using Telephone and Co-browsing. The students had challenge with using online pathfinders, Elibrary the least challenge and Instant Messaging to access information resource and services. Other notable challenges recorded were with using Voice over IP and Calibre. The challenges with some of the digital reference technologies are common. However, with continuous training and retraining of staff and students in the use of reference technologies, most of the challenges identified in this study will be overcome. Training is particularly required for Library staff when there is a redesign of traditional mode of reference delivery to upgraded one (Flierl & Henkaline, 2023).

Conclusion

The significance of reference services to users have been reported in numerous studies. Quite a number of them were systemic and user centred investigations which addressed the functions of the reference

department and the expectations reference users have toward it. While notable studies affirmed that reference information services are integral to the academic success of students, they equally discussed service redesign that will change traditional mode of reference delivery and even suggested testable ways to accelerate them. However, there is still need to keep assessing what we practice and explore better ways to understand and serve our users better. On the other hand, institutions, universities and distance learning centres requiring digital reference services for their students and employees or seeking comprehensive remote reference service, must invest in it by providing the relevant information resources, access, technologies and manpower. This study is a step in the right direction as it has revealed the types of digital reference technologies, information resources and service provided, suitability of the digital reference technologies use and challenges faced by the ABUDLC Library staff and students.

Recommendations

1. There is need for the ABUDLC Library to increase awareness and use of less used digital reference technologies and to also fabricate its own digital reference solution such as robot aided reference service solution, design web form and explore Voice over IP for the benefits of its students.
2. There is need for the ABUDLC Library to take advantage of suitable technologies such as Chat and teleconference to provide reference service delivery options to suit numerous preferences of its students and to also consider using them, due to their affordability, availability and ease of use.
3. There is need for the ABUDLC Library in addition to maintaining the recorded satisfaction derived from the information resources and services it provided through digital reference technologies to students, to include FAQs that will to ease students independent information navigation, access and use.
4. Training and retraining of ABUDLC Library is important for all realms of library information technologies. However, preference should be given to digital reference technologies due to the remote location of the centre's student. Furthermore, the training should covered use of elibrary solution, calibre and online pathfinders.

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EDUCATIONAL AND COUNSELLING PSYCHOLOGISTS STRATEGIES FOR MANAGING DRUG ABUSE AMONG NIGERIAN ADOLESCENTS

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Abstract

Adolescents prefer an autonomous and independent life that is free from parental control, there by engaging in various delinquent acts such as drug abuse, rape, robbery, cultism and vandalism that are dangerous to the home, community, school and the nation. The impact of drug abuse among adolescents has been a stigma of moral decadence, violence, thuggery, assault, madness, kidnapping and murder. The menace of drug abuse has eaten deep into the fabrics of our society; however, with effective psychological and counselling programmes, the problems can be tackled through campaign against drug abuse by government and other relevant authorities. This paper discusses the concept of drug abuse, types, theories, causes, signs and symptoms, effects, and strategies for educational and counselling psychologists. Drug control counselling centres should be established in every community and qualified psychologists and counsellors should be employed in helping drug addicts by giving them special advice on how to go about the withdrawal system. Drug awareness units should be set up in all states by the federal, state and local government not to try people who use drugs as criminals, but to help solve their socio-psychological problem. Parents and caregivers should be sensitized to educate their children on the consequences of drugs abuse so as to bring it into control.

Keywords: Adolescents,Drug Abuse, Educational and Counselling Psychologists Strategies.

Introduction

A drug is defined as any natural or artificial substance, other than food that by its chemical or physical nature alters structures or functions in the living organization (Dorwick and Maline, 2007, Edith & Diri, 2021). It is also defined according to their use; in pharmacology, as a chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being. Psychoactive drugs are chemical substances that affect the function of the nervous system, altering perception, mood or consciousness. Recreational drugs are drugs that are not used for medicinal purposes, but are instead used for pleasure. These include alcohol, nicotine and caffeine, as well as other substances such as opiates and amphetamines. Drugs are also used as food supplements like vitamin and we necessarily benefit from drugs in terms of ill health, though prescribed by doctors (Elizabeth, & Martin, 2007, Prakash, Kumar, Kumari & Sinha, 2021). On the contrary, drugs are harmful and fatal if they are used wrongly.

Substances and drug abuse are used interchangeably by people, however, drug refers to medicine prescribed by doctor, while substances abuse may include chemicals other than drugs such as gasoline, glue, totuline, tramadole, coaffline, ciggerate among others. Substance was considered abused if it is deliberately used to induce physiological or psychological effects for a purpose other than for therapeutic purpose. Farhadinasab, Bashirian, and Mahjoub (2008); Edith & Diri (2021) noted that substance abuse mostly initiates with smoking and alcohol consuming in adolescence. However, drug abuse among students could be as a result of interaction between the peer groups, availability and nature of the substance. Some environmental factors that contribute to drug abuse are cultural, parents' behaviour, regulations and policies, which restrict access to the drugs.

Transition from childhood to adolescence is a delicate period and in many cases the initiating of drug abuse may occur. The adolescents may abuse substances due to various reasons such as lack of adequate

knowledge about the harmful effects of the substances, presenting personal independence, peer pressure, satisfying the curiosity, low levels of self-confidence, inability in maintaining inter-personal communications, and reducing stress. Among other dependents, the presence of substance abuser in the family are major factors of substance abuse by adolescents. The health educator has no doubt that drug and alcohol abuse among secondary school students have become a matter of concern to Nigerians. These substances not only alter the functioning of the body and mind but also affect the dimension of health. However, Encomium magazine, (2013) stated that the use of illicit drugs is not a new trend, rather it is growing at an alarming rate with more "leaders of tomorrow" embracing drug abuse for varying reasons.

Today, drug addiction is one of the vexing and pervasive problems that almost all the countries have faced in the world including Nigeria. NAFDAC, (2018) reported that the abuse of illicit drugs is forming a student sub-culture in Nigeria. The consequence of such addiction, abuse, trafficking or even cultivation can be devastating; unfortunately the youths are the most vulnerable on hard drugs and this brings a lot of adverse effects on the community (Ajibulu, 2014, Kundwei& John 2020). This paper therefore, would be focusing on the forms of drug abuse, theory of drug abuse, causes, signs and symptoms, strategies for educational and counselling psychologists.

Forms of Drug Abuse

In Nigeria, the most common types of abused drugs according to NAFDAC (2018) as cited by Haladu (2020) are categorized as follows:-

1. **Stimulants:** These are substances that directly act and stimulate the central nervous system. Users at the initial stage experience pleasant effects such as energy increase. The major source of these comes from caffeine substance.
2. **Hallucinogens':** These are drugs that alter the sensory processing unit in the brain. Thus, producing distorted perception, feeling of anxiety and euphoria, sadness and inner joy, they normally come from marijuana and LSD.
3. **Narcotics:** These drugs relive pains, induce sleeping and they are addictive. They are found in heroin, codeine, opium.
4. **Sedatives:** These drugs are among the most widely used and abused. This is largely due to the belief that they relieve stress and anxiety, and some of them induce sleep, ease tension, cause relaxation or help users to forget their problems. They are sourced from valium, alcohol, promotazine, chloroform.
5. **Miscellaneous:** This is a group of volatile solvents or inhalants that provide euphoria, emotional dis-inhibition and perpetual distortion of thought to the user. The main sources are glues, spot removers, tube repair, perfumes and chemicals.
6. **Tranquilizers:** They are believed to produce calmness without bringing drowsiness, they are chiefly derived from Librium and Valium.

Theories of Drug Abuse

Theories of drug abuse indicate that some people truly depend on certain drugs for their survival due to a number of factors. The major emphasis of the theories is that people have their individual reasons for depending on one type of the drug or the other. Such reasons, according to Eze and Omeje (1999) are explained by the following theories. Personality theory of drug abuse, learning theory of drug abuse, biological theory of drug abuse and socio-cultural theories

(a) **Personality Theories of Drug Abuse:** The main emphasis of the theories are that there are certain traits or characteristics in the individuals that abuse drugs. Such personality characteristics, according to Eze and Omeje (1999) are inability to delay gratification, low tolerance for frustration, poor impulse control, high emotional dependence on other people, poor coping ability and low self-esteem. Individuals with these personality characteristics find it difficult to abstain from drug abuse.

(b) **Learning Theory of Drug Abuse:** It maintains that dependence or abuse of drugs occurs as a result of learning. The learning could be by means of conditioning, instrumental learning or social learning (Dorwick, & Maline, 2007).

(c) **Biological Theory of Drug Abuse:** The theory maintains that drug abuse is determined by the individuals biological or genetic factors which make them vulnerable to drug addiction

(d) **Socio-cultural Theories of Drug Dependence/Abuse:** The theories maintain that abuse is determined by socio-cultural values of the people. For instance, while certain cultures permit the consumption of alcohol and marijuana, other cultures do not. Among the Urhobo, Ijaw, Ibibio, Edo, Igbo, Yoruba and Itesekiri, alcohol that is Ogogoro is used in cultural activities. In Northern Nigeria, alcohol is forbidden due to Sharia law.

However, the sharing law does not forbid cigarette consumption and thus nicotine dependence. It should be noted, however that no theory fully explains the etiology of drug abuse. This is due to individual differences. It then becomes obvious that the disorder (drug abuse) is an acquired one. The acquisition, then is dependent on a host of personal inclinations and environmental factors, a situation explained suggestively by Bandura & National Institute of mental Health(1986) social cognitive theory that is the triadic reciprocity involving behaviour, environment and the person.

Causes of Drug Abuse

Haladu (2020); Edith and Diri (2021) gave the following as the main causes'

i. **Experimental Curiosity:** Curiosity to experiment the unknown facts about drugs thus motivates adolescents into drug use. The first experience in drug abuse produces a state of arousal such as happiness and pleasure which in turn motivate them to continue.

ii. **Peer Group Influence:** Peer pressure plays a major role in influencing many adolescents into drug abuse. This is because peer pressure is a fact of teenage and youth life. As they try to depend less on parents, they show more dependency on their friends. In Nigeria, as other parts of the world, one may not enjoy the company of others unless he conforms to their norms.

iii. **Lack of parental supervision:** Many parents have no time to supervise their sons and daughters. Some parents have little or no interaction with family members, while others put pressure on their children to pass exams or perform better in their studies. These phenomena initialize and increases drug abuse.

iv. **Personality Problems due to socio-Economic Conditions:** Adolescents with personality problems arising from social conditions have been found to abuse drugs. The social and economic status of most Nigerians is below average. Poverty is widespread, broken homes and unemployment is on the increase, therefore our youths roam the streets looking for employment or resort to begging. These situations have been aggravated by lack of skills, opportunities for training and re-training and lack of committed action to promote job creation by private and community entrepreneurs. Frustration arising from these problems lead to recourse in drug abuse for temporarily removing the tension and problems arising from it.

v. **The Need for Energy to Work for Long Hours:** The increasing economic deterioration that leads to poverty and disempowerment of the people has driven many parents to send their children out in search of a means of earning something for contribution to family income. These children engage in hawking, bus conducting, head loading, scavenging, serving in food canteens and are prone to drug taking so as to gain more energy to work for long hours.

vi. **Availability of the Drugs:** In many countries, drugs have dropped in prices as supplies have increased.

vii. **The Need to prevent the Occurrence of Withdrawal symptoms:** If a drug is stopped, the user experiences what is termed “withdrawal symptoms”. Pain, anxiety, excessive sweating and shaking characterize such symptoms. The inability of the drug user to tolerate the symptoms motivates him to continue (Tulu & Keskis, 2015).

Other Determinants of Drug Abuse among Students

Age: Adolescents is positively associated with curiosity and experimentation coupled with the desire to be accepted into a peer group. These place them in a high risk behaviour. Ethnic and social-class lines, many young adolescentsaged 12 to 14 used drugs, drove while being intoxicated, and are sexually active. They further argued that these behaviours increased throughout the teenage years.

Peer Pressure: The influence of peer pressure and inadequate self-confidence is strong during formative years of youth, that is, a friend can be greatly influenced to be a drug addict if allowed to interact with the group. One may attempt to have a test for the fun of it and gradually ruin his career in life. However, getting hooked to particular drug is a gradual process that will reach a climax. Peer influence is synergistic, with the highest rates in marijuana, cocaine, and inhalants. These affect their behaviour and impair their health leading to frustration, poor academic performance, zest for future career prospects regression and may eventually drop out of school. It leads to increased crime, lawlessness, and rape among the group. At this stage, the adolescent loses interest in his health, family and community.

Education: Adolescence is a time for developing a person's sense of self-identification, a process that involves separating from parental attachment and values thus establishing new social ties, values and ideas in school. However, the effect of drugs and alcohol may influence social relationship, ideas and self-identities. Drug can decrease cognitive operation, making it difficult for youth to develop a functional set of values and ideas. These placed their education in danger which may affect the economy of the country in future, since they are physically and mentally dependent, accompanied by violent behaviour, aggressive acts, chronic anger, and lack of respect for elders (Johnstone, Miech, O'Malley, Bacham, Schulenberg & Patrick, 2021).

Family: The parental background of a child such as a genetic predisposition to alcoholism, parental use or acceptance of drugs, poor or inconsistent parenting practices can affect adolescent. Family problems such as broken homes, poverty, parental neglect, cultural influence, lack of parental affection and not meeting up responsibility could pose major determinant of drug abuse. These problems impair family life and may threaten survival that would contribute to substance abuse from parents to the children (WHO, 2018). As these youth drink and use illicit drugs, they get involved in criminal and violent lifestyles, become social miscreants, armed robbery among others.

Community: Local communities which produce, and distribute illicit drugs are bound to have drug and alcohol abusers among them most especially adolescents. However, such community faces problems of insecurity such as social violence among the youths, crime such as armed robbery, rape, '419' syndrome fraud, mental disorder, teen pregnancy, kidnapping and social miscreants among others (United Nation, 2009). A community with drugs and alcohol abusers are likely to be in low socio economic status, since the youths, who formed the majority of drug traffickers and abusers would not be able to do any constructive work. These lead to low production, poor quality education, and poor social services.

Signs and Symptoms of Drug Abuse

According to Adolescents Health Information Project AHIP (2020) the following are signs and symptoms of drug abuse. They are:

a. Signs of Drug Used and Drug Paraphernalia
   i. Possession of drug related paraphernalia such as pipes, rolling paper, small decongestant
   ii. Possession of drugs, peculiar plants or bolts, seeds of leaves in ashtrays or clothing pockets.
   iii. Odour of drugs, smell of incense or other cover up scents.

b. Identification with Drug Culture
   i. Drug related magazines, slogans on clothing
   ii. Hostility in discussing drugs

c. Signs of Physical Deterioration i. Memory lapses, short attention span, difficulty in concentration.

i. Poor physical coordination, slurred or incoherent speech; unhealthy appearance, indifference to hygiene and grooming ii.

Bloodshot eyes, dilated pupils.

d. Changes in Behaviour

i. Distinct downward performance in school place of work.
ii. Increased absenteeism or tardiness.
iii. Chronic dishonesty, lying; cheating and stealing.
iv. Trouble with the police and other law enforcement agencies
v. Change of friends, evasiveness in talking about new ones.
vi. Increasing and inappropriate anger, hostility and irritability.
vii. Reduce motivation, energy, self-discipline and self- esteem.

The Effects of Drug Abuse

Mba (2008), Kundwei and John (2020) identified numerous negative effects of drug abuse on the body chemistry as follows:

1. **Alcohol-related problems includes:**
   a. Physical problems such as liver cirrhosis, pancreatic, peptic ulcer, tuberculosis, hypertension, neurological disorder.
   b. Mental retardation for the fetus in the womb, growth, deficiency, delayed motor development.
   c. Craniofacial abnormalities, limbs abnormalities and cardiac deficits.
   d. Psychiatric such as pathological drunkenness, suicidal behavior
   e. Socially-broken homes, increased crime rate, sexual offences, homicide and sexually transmitted diseases.
2. **Tobacco:** Causes stimulation of heart and narrowing of blood vessels, producing hypertension, headache, loss of appetite, nausea and delayed growth of the fetus. It also aggravates or causes sinusitis, bronchitis, cancer, strokes, and heart attack.
3. **Stimulants:** Lethargy, irritability, exaggerated self-confidence, damage nose linings, sleeplessness, and psychiatric complications.
4. **Inhalants:** Causes anemia, damage kidney and stomach bleeding.
5. **Narcotics:** Causes poor perception, constipation, cough, suppression, vomiting, drowsiness and sleep, unconsciousness and death.

Incidence of Drug Abuse among Nigerian Adolescents

Students, especially those in secondary school tend to see the drug user as one who is tough, bold and strong. Many youngsters have been known to use drugs at the instance of peers, elders or siblings. Students who usually feel inadequate have been known to use drugs to achieve social acceptance. Esen (1979) stated that Nigerian secondary school adolescents under the influence of Indian hemp shed all inhibitions and produce behaviour that is inconsistent with school discipline. He went further to observe that the increasing incidence of drug abuse among secondary school students is a contributory factor in the ugly confrontation between school administration and students.

According to Okorodudu and Okorodudu, (2004) in their research work indicated that the problem of drug abuse know no boundaries or social class. It impedes the development of any society as it is a threat to life, health, dignity and prosperity of all individuals. Adesina, (1975) studies dwelled extensively on reasons students use drugs include success in examination, social acceptance and initiation of peers. Edith & Diri (2021) states that Nigerian adolescents take drugs such as amphetamines and pro-plus as aid for success in examination. He postulated that those who take drugs as aid for studies toward examinations are those with poor academic records, a history of instability and family/social problems, while others, he commended; use rugs to increase their self-confidence, heighten pleasure, cope with feelings of depression and inadequacy, and to facilitate communication.

Idowu (1987) found that students smoke and use drugs at the instance of friends/peers, parents and television/radio advertisements. Oladele, (1989); Okorodudu and Okorodudu (2004); and Enakpoya (2009) in their studies showed that adolescents were very susceptible to the influence of their peers. Osikoya and Ali (2006) asserted that socially, a drug abuser is always pre-occupied with how to obtain drug of choice and crave for the substance. Prakash, etal (2021) study revealed that the academic pursuits of those undergraduates who engages in drug misuse is not unduly jeopardized, and that the abusers do not socialize extraordinarily, contrary to seemingly popular expectation.

Intervention strategies for curbing drug among adolescents

The following strategies are suggested to help reduce drug abuse among adolescents.

Drug intervention strategy is a structured, solution-oriented process undertaken to persuade youth who is abusing drugs to seek help in overcoming the addiction. A successful intervention strategy is not a confrontation but an opportunity for an addicted student to accept help in taking the first step toward recovery. In curbing drug, intervention strategy should involve school, peer education, family, non-governmental organization (NGO), health and social marketing.

i) **School drug intervention strategy:** Schools can play a crucial role during intervention programme through drug free club, drama, role play, involving home and community partnership. Botvin, (2009) noted that educational programs either by focusing on promotion of knowledge of the students about addictive drugs and their adverse effects, or on improvement skills such as decision-making and resisting peer pressure. These educational programs would play an important role in decreasing the prevalence of drug abuse among adolescents.

ii) **Peer education intervention strategy:** Peer education is a carefully planned and implemented strategy to train representative adolescents, providing them with information on issues relating to adolescents and hopefully, this will allow them to share information with their immediate peer group and others (Ekenedo&Obiechina, 2010). Peer educator can discourage advertising of cigarettes, alcohol, and proprietary drugs that are responsible for adolescent exposure to drug use. The educator should give comprehensive health education on drug addiction and proffer solution to rehabilitation. It encourages the adolescent to focus more directly and effectively on learning behaviour to promote their health needs.

iii) **Family intervention strategy:** Family influences such as a genetic predisposition to alcoholism, acceptance of drugs, family conflicts, and distant family relationships influence adolescent use of illicit drug. Therefore, parents should be part of the intervention strategy programme, through building awareness and educating families about the ill effects of drug abuse. Preventive measures should be designed to include training parents in appropriate ways of dealing with children and providing a friendly and safe environment in family. Children should be discourage from buying or patronizing cigarettes, alcohol, and proprietary drugs that are responsible for adolescent exposure to drug use.

iv) **Non-Governmental Organization (NGO) drug intervention strategy:** The primary mission of NGO is to promote, prevent and reduce harm related to chemical dependency on alcohol and drugs through advocacy, networking, collaboration and bytreating people for their dependency problems, in order to limit the negative impact of substance abuse known to be a major cause of premature death, interpersonal violence, disability and poverty, throughout the world (Kodjo, 2002). Their function include the following; creating and nurturing ties between organisations concerned with harm related to chemical dependency, influencing policy makers by advocating effective and evidence based policies and treatment of chemical dependency and monitoring policy initiatives and marketing strategies of the alcohol and pharmaceutical industries.

v) **Health and Social Marketing Intervention Strategy:** Social marketing is widely used to influence health risky behaviour. They use a wide range of health communication strategies based on mass media; they also use role models such as popular music and movies celebrities and mediated through a healthcare provider, interpersonal, and other modes of communication. Other marketing methods such as message placement, promotion, dissemination of information through

mass media, and community level outreach to discourage drug and alcohol addiction.

vi) **Establishment of Family Education on Drugs:** The family is the nucleus of the social organization. Parents should give their children appropriate education on drug use. They should be encouraged by health authorities to offer family education on drug abuse to their children. They should inform them of the dangers of drug abuse and dependence on their health, society and the nation.

vii) **Establishment of Counseling Centres for Drug Control:** Counselling centers should be established in every community by the government or private individuals. Qualified health counsellor should be employed in helping drug addicts or those dependent on drugs by giving them special advice on how to go about the withdrawal system.

viii) **Designing Curricula on Drug Education:** Ministry of education (State and Federal) should as matters of urgency add to the curricula- drug education at all levels of education.

ix) Campaign against Drug Abuse: National Drug Law Enforcement Agency (NDLEA) should intensify their campaigns on antidrug in order to have a drug free society. The campaign against use of certain drugs and misuse of drugs should be more intensified at the secondary school level because it is the peak of adolescent. Also, government and other relevant authorities should lunch out campaigns against drug abuse as well as dependence.

x) **Effective study Habit for Students:** An effective study is that which centers on a well-planned scheme of study involving sufficient recreational activities, enough resting time and sleep. Thus, such well-planned time table of study habits that make adequate provision for rest will enhance good study habit without necessary resorting to the use of drugs to keep students artificially awake. xi) **Establishment of Drug Awareness Units:** Drug awareness units to be set up in all states and moderated by the federal state and local governments. It should not be a panel established to try people who use drugs as criminals, but to help solve their socio-psychological problem.

Parents and adults should refrain from using drugs in discriminately in the presence of youngsters and they should discourage their wards/children from associating with "unknown" gangs or suspicious neighbourhood peer groups.

Conclusion

Drug abuse is a problem that is causing serious concern to both individuals and government all over the world. The problem is prevalent among adolescents who in most cases are ignorant about the dangers inherent in drug abuse. Many of them engaged in drug abuse out of frustration, poverty, lack of parental supervision, peer influence and pleasure. However, with effective psychological and counselling programme, the problems can be tackled.

Recommendations

1. The Ministry of Education (Federal and State) in-collaboration with National Drug Law Enforcement Agency (NDLEA) must intensify their antidrug campaigns in order to have a drug-free society with a special focus on students
2. Teachers should be provided with skills on how to handle students with behavioural problems using primary, secondary and tertiary prevention and they should always organize lectures, rallies, seminars and film shows for students on the adverse effects of drug abuse.
3. Government must interfere fast in educating the Nigerian public using mass media, internet, facebook, instagram about the spreading scourge of drug abuse among our adolescents.
4. Parents and caregivers should be sensitized to educate their children on the consequence of drugs abuse so as to bring it into control

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THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN ENHANCING ADULT LEARNERS IN THE NEW GLOBAL REALITIES

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Abstract
Information and Communication Technology (ICT) is one of the most important driving forces in promoting economic, political, social and educational growth through its applications in new global realities. ICT applications assist in information gathering, communication, administration and research, which have turned the world into a global village, and this can be achieve with the aids of the adult learners. Adult learners are anyone who formally or informally engaged in adult education programme with intent to solve life problems.Against this backdrop, ICT can be used as an instrument to enhance adult learners inworkforce with relevant knowledge and skills foreffective service delivery which is the gap this work intends to bridge. The main focus of this paper is to discuss the concept of ICT, adult learners and the use of ICT in enhancing adult learners in Nigeria. The study concludes that in spite of the benefits of ICT, adult learners still lack basic knowledge and skills for effective service delivery in their place of work. Therefore, the study recommends that adult learners should be trained and re-trained to have adequate knowledge and skills in the use of ICT for effective service delivery for new global realities.

Key words: ICT, adult and adult learners.

Introduction

Information is the life wire of any organization or society. It plays significant role in the educational system of any nation. Over the years now, this role has been growing rapidly with the introduction of new innovation or technologies in the educational system. This innovation is known as information and communication technologies (ICT). It has brought about rapid changes affecting all aspects of human life. Essien & Anthony as cited in Ukwuaba&Oboqua (2021), opined that information and communication technology has turned the world into a global village and opened opportunities to accessing information. The new global realities laid much emphasis on information and technology which has brought about drastic changes in effective service delivery in the educational system. New global realities is where communication infrastructural facilities such as telephones, fax and computer networking are tools that are turning our world into a global village where classroom may no longer play prominent role as major access to education.

Information and communication technology (ICT) has important functions in communicating information, knowledge, advertisement, public enlightenment, research, education and among others in the society.

Fundamentally, in the field of education, information and communication technology (ICT) has important roles to play in order to stimulate effective teaching and learning in the society. This undoubtedly, promotes effective service delivery in educational sector of the economy. Indeed, functional information and communication technology (ICT) in any economy requires a strong workforce with relevant knowledge and skills that will meet the challenges of global environment. In view of the new global realities, relevant knowledge and skills in workplace relies primarily on the use of ICT application. Thus, preparing workers in new global realities requires a new mode of education and training, a mode of life-long learning that encompasses learning throughout the life cycle of an individual (Paymaster & Lyndon, 2014).

It has been observed that lack of trained workforce with relevant knowledge and skills in information and communication technology (ICT) is a problem that confronts the educational sector in Nigeria, which serve as a gap this paper intends to bridge through adult learners. Adult learners as the capacity to solve socio-economic, cultural, political and environmental problems besieging humanity in their various societies by engaging in adult education programme. Fabakun (2006) observed that adult education is not concerned with preparing people for life but rather with helping or assisting people (adults) to live more successfully as useful and acceptable members of their societies and contribute meaningfully to the development of those societies. This paper thus focuses on the concept of ICT, adult learners and the need of information and communication technology (ICT) to enhance the adult learners.

Concept of Information of Communication Technology (ICT)

Information and communication technology (ICT) refers to any arrangement that is capable of capturing, storing, retrieving, manipulating, transmitting or receiving of information or data. In a broad sense they include; television sets, bulletin boards, radio, record players, disc players, still camera, video camera projectors, computers, interactive white board, internet and the internet resources etc. Information and communications technologies are computer based tools used by people to work with information and communication processing needs of an organization. Its purview covers computer hardware and software, the network, and other digital devices like video, audio, camera, and so on, which convert information (text, sound, motion, etc.) into digital form (Onwuagboke, 2015).

Okeh & Opone (2007) viewed ICT as the combination of electronic technologies and applications for collecting, keeping, handling (editing) and passing on information in various forms. Information and Communication Technologies (ICT) is thus an aspect of technology that is concerned with information storage and retrieval purposes. In similar vein, Tinio (2009) view ICT as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, telephone, audio-visual equipment, internet, electronic data processing tool, broadcasting technologies, telecommunications, and other related services and tools. ICT is a generic term that refers to technologies which are being used for receiving, storing, processing and transmitting information in different forms such as text, voice note, email among others. It includes electronic data in processing technologies which include PC and internet, as well as other multi-telecommunication providers (Tinio, 2009).

Information and Communication Technology (ICT) is a term that covers all technical procedure for manipulating and dispensing information. It is an applied science and technology for effective and efficient generation, storage, organization, protection and dissemination of information. It utilizes a broad range of technological tools that are used in the process of collecting, storing, editing, retrieving and sending of information (Okeh & Opone, 2007). Chowdhury in Igwe and Ewelum, (2016) posited that ICT encompass technologies that can process different kinds of information (audio, video, text, and data), and facilitate different forms of communications among human agents, and among information systems. It includes technology facilities such as capturing technologies (keyboards and image scanners); storage technologies (magnetic tapes, floppy disks, hard disks) processing technologies (photocopy and fax machine); communication technologies (internet and cellular phone) and display technologies (computer screens, digital TV sets and printers).

Concept of Adult Learners

Adult learners constitute individuals who are desirous to improve themselves and their social, economic, political, intellectual and cultural well being of their society. Igbo (2008) stated that anyone who consciously or unconsciously, formally or informally engaged in adult education programme with intent to solve life problems is an adult learner. Gboku&Lekoko (2007), see adult learner as a participant in any adult learning opportunity, whether special or regular, who aims to develop new skills or qualifications, or

to improve existing skills and qualifications or to acquire information. Gboku&Lekoko went further to give eight types of adult learners, as follows:

> Young adults who have dropped out of school due to factors such as pregnancy, or death of parents etc.
> Adults who have never had the opportunity to enter formal education.
> School leavers with different educational attainments who engage in professional training in the evenings.
> Diploma and degree certificate holders who have become less functional because of the introduction of new technologies such as ICT
> Master degree in science and doctor of philosophy holders at higher institution of learning attending short course and seminars on the use ICT.
> Adults who attend driving schools, often requiring driving skills, as part of their job.
> Retired employees learning to cope with life after work. These learners attend counseling and therapy workshops organized by professional practitioners.

However, Kapur as cited in Kate (2022) asserted that adult learner has many characteristics and some of them are:

Adults take more control over their learning**:** Adults generally possess the viewpoint that they take more control over their learning as compared to youth. When adults get engaged into learning, they possess the authority to put into operation the methods and strategies that would enable them to exercise more control upon their learning. Adults are more self-directed. Apart from learning, there are number of tasks and activities that adults need to get engaged in.

Adults draw upon their experiences as resources: The experiences that adults go through in their lives help them to hone their educational skills. In educational institutions, when the adults participate in classroom instruction, they usually bring in their daily life experiences within the classrooms. When they share their experiences within the classroom with instructors and fellow students, they render an effective contribution in enriching their learning as well. The different experiences that usually adults go through in their lives are in terms of dealing with individuals, carrying out various tasks, participating in various activities and so forth.

Adults are motivated in learning situations: When adults are engaged in learning, they tend to be more motivated. Adults usually are enthusiastic and work towards achievement of their goals and objectives with wholeheartedness. When they get enrolled in educational institutions or training centres to augment their knowledge and skills, they have an objective. The adults are able to understand that when they are devoting their time and resources towards learning, then learning should prove to be beneficial to them.

Adults are pragmatic in learning: When adults take out time and get engaged in learning, they need to ensure that learning would help them to achieve their personal and professional goals. They are pragmatic in learning, this is one of the important characteristics that would help them to make use of their knowledge and skills satisfactorily. Within the course of learning, there are number of factors that need to be taken into consideration. These include, establishing effective communication skills, maintaining good terms and relationships with other individuals, particularly instructors and fellow students, obtaining materials and resources that are necessary for the achievement of academic goals, getting engaged in practice on a regular basis, making wise decisions, and inculcating the traits of diligence, resourcefulness and conscientiousness. When the adults carry out these tasks in an appropriate manner, they are able to depict pragmatism in learning.

Adults need to ensure that learning is productive and useful: When adults get engaged in learning, they need to ensure that it proves to be productive and useful to them. For instance, there are number of courses and training programmes that adults get engaged in. These are regarding different subjects, such as adult

literacy and computer training programme. After they have acquired education in terms of particular subjects, they need to ensure that learning is advantageous to them in enriching their lives (Kate, 2022).

The Use of Information in Communication Technology in Enhancing Adult Learners

New global reality is characterized by an upsurge of information technology which dictates the pace of development and surely we have not stopped talking about technological transfer. It is where communication and infrastructural facilities such as telephones, fax and computer networking are tools that are turning our world into a global village, where classroom may no longer play prominent roles as major access to adult education (Nzeneri, 2010).

Igbo (2008), observes that adult education is an instrument for helping the entire population worldwide with information and communication technology (ICT), which is a decisive tool for the smooth integration of Nigerian economy in new global realities. ICT is, therefore, technology that generally supports the individual's ability to manage and communicate information electronically. Thus, for adults not to be left out in what is happening in the world they need to key into the use of application of technology and this can only be achieved through the integration by ICT into adult education programmes.

However, Igwe and Ewelum as cited in Ukwuaba&Oboqua (2021) states that there is a common belief that the use of ICT in adult education programme will contribute to more constructivist learning as increase in activity and greater responsibility of the adult learners. Information and communication technology is more pronounced in education as it provide the opportunity for learners and teachers to adopt teaching and learning process based on individual needs and eliminate barriers posed by space and time (Mikre, 2011). ICT serve as a veritable instrument that fast-track the rapid transition from the traditional learning environment characterized by teacher and book- centeredness into a learner-center learning environment (Chhabra, 2014).

The use of information and communication technology (ICT) in the teaching and learning of adult education programmes cannot be overemphasized. Adult education deals with awareness creation, information generation, skills acquisition, knowledge development attitudinal change and problem solving need to be fully launched or integrated into (ICT). A good example of the promotion of ICT usage in adult education or any subject area is that, it emphasizes on learner centered teaching and not teacher centered approach. The educational system especially in Nigeria had over the years relied on pedagogical theories and principles which focused on teacher centered approach. The teacher centered approach showcases the teacher as the only custodian of knowledge or information where the learners depend on. With the introduction of ICT in the educational system today, the teacher is now seen as a facilitator or a guide who operate within a learner-centered environment. This implies that adult learners can as well explore relevant information on their own through ICT components.

According to Newby *et al* (2000), ICT encourages andragogical teaching. In the field study of adult education androgogy is described as a teaching method which helps people or adult learners to learn. This method of teaching emphasized on independent study, as the adult learner is considered to have a reservoir of rich experiences which are resources for learning. Igwe &Ewelum (2016) reported that ICT contributed more to constructivist learning which brings about increase in activity and greater responsibility of the adult learner. Thus, since ICT support constructivist learning, Newby *et al* (2000) explained that knowledge therefore could be constructed by the enrichment processes of the mind. Therefore, learners in adult education programme could be encouraged to adopt independent learning study habits.

Nevertheless, the use of ICT in the teaching and learning process of adult education engaged learners and create excitement among the learners as they involve in new learning outcomes. This will go a long way to increase learners' motivation, encourage them to become problem solvers and explore more information. In this context, Chris in Ukwuaba&Oboqua (2021) stated that ICT have resulted in different kind of

improvement in educational outcomes. One of these educational outcomes is increased learners motivation which creates excitement in learners as they are exposed to new learning outcomes which goes beyond information generation and assimilation. However, new technologies such as computers, e-biro, e-notebook, internet, projectors, print and others components of ICT have yielded increased learner motivation, resulting to higher concentration better attendance and greater time or task. Therefore, ICT can help learners in adult education programme not only to achieve or learn difficult tasks, but also master advance concepts. It helps learners to develop the ability of problem solving.

In another development, ICT component is very important in the teaching and learning in the educational system. It is a relevant tool which helps learners to develop and extend their skills in different areas of life. For instance, it promotes valuable group discussion among learners and enhances the quality of teaching and learning in adult education study centres. Thus group discussion is one of the best teaching methods as it enables learners to share their views and learn more among themselves. Also, Mbara &Anurugwo (2017) stated that the computer brings about new learning outcomes or experiences into the classroom through the stimulation of many kinds. In this case, learners in the educational system especially in adult education programme can process various kinds of media, text, graphs, still pictures, animated images and so on.

Rao (2009) asserted that the internet is a new communication technology which has touched many adult learners in different areas through electronic mails, audio conferencing, video conferencing and virtual reality. Therefore, with the potentials of the internet, adult learners can meet, discuss, teach, learn and share information on any subject in the teaching and learning processes in adult education programmes. Ebersole (2000) identified some basic types of internet that can enhance adult learners which include:
Website: This provides documents or collection of documents that can be used or read for information purposes.

E-mail: This could be used for sending or receiving messages through the net. Learners use e-mail to connect with friends and their classroom teachers.

Chat rooms: These are internet facilities were learners communicate with each other on the computer at the same time, typing messages to each other.

News group: This is an electronic bulletin board. This is news group that could help in facilitating development that encourages team work and effective communication among adult learners.

Magnetic board: Magnetic board is similar to flannel board and is made up of a steel sheet painted green or black and attached with a magnet. Photographs or pictures are displayed on the magnetic board, and a set of items as well as key headings which form the summary of a lesson.

Conclusion

In spite of the relevance of information and communication technology (ICT) in enhancing adult learners in new global realities, many workers in various organizations or institutions still lack relevant knowledge and skills for effective service delivery for global competitiveness. For instance, printed materials are still used in teaching and learning in the educational system in Nigeria.

Recommendations

The paper therefore recommends that:

1. Workers should be trained and re-trained to have adequate knowledge and skills in the use of ICT for effective service delivery.
2. Government and non-governmental organizations should provide ICT facilities in adult education centres in various localities to attract adult learners.

3. Government at various levels and non-governmental organizations should provide adequate funds for the sustainability of the programmes for effective use of ICT facilities by the facilitators in the various adult education centres.

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THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE TEACHING AND LEARNING OF HAUSA IN COLLEGES OF EDUCATION, NORTH WESTERN NIGERIA

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Abstract
This study explores the use of Information and Communication Technology (ICT) in teaching and learning Hausa language in the colleges of education in Nigeria's North West zone. The research is motivated by the increasing demand for Hausa language skills in Nigeria and the need to improve the quality of language instruction in Nigerian educational institutions.. The findings reveal that while some efforts have been made to integrate ICT in language instruction, there are still significant challenges to be overcome, including inadequate infrastructure, limited access to technology, and insufficient training and support for teachers. Furthermore, while students generally perceive ICT as a useful aid to language learning, they also express concerns about over-reliance on technology and a lack of emphasis on traditional language learning methods. The study concludes with recommendations for addressing the challenges and opportunities of using ICT in Hausa language instruction, including improving infrastructure and access, providing adequate training and support for teachers, and developing a balanced approach that combines traditional and technology-based teaching methods.

Keywords: ICT, Teaching and learning, Hausa language, Colleges of Education**.**

Introduction

Every aspects of life are related to science and technology. Huge flow of information is emerging in all fields throughout the world. Now information and technology is popularly using in educational enterprise for making teaching learning process successful and interesting for students and teacher both. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools and teacher educational institutions. Teachers must have the knowledge and skills to use new digital tools to help all students achieve high academic standard. The quality of professional development of teacher education depends on the extent of ICT integration in teacher education programme. According to UNESCO (2002) "ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters".

Teachers are at the core of any living society. Technologies play an important role in training programme of teachers. Students" a c c e sse s k now l edge a nd i nf or ma t i o n t hr ough T V , di gi t al medi a , c abl e net w o r k , internet and social media i.e. Facebook, Twitter, Whatsapp, Linkedinn, Igo, Line, Wechat etc. ICT is very important for effective teacher education programme in the 21st Century. Without proper knowledge of ICT teacher cannot perform in his/her class room and it could not be said to be a complete one.

Teachers technical knowhow in ICT will pave way for further learning and improve efficiency and effectiveness in teaching and learning Hausa language in Nigerian Colleges of Education. Improved standard of education is fundamental to the creation of human capital in any country. In an effort to eradicate poverty and ensure a sustainable socio-economic development in Africa, the newly formed New Partnership for Africa Development (NEPAD) recognized that a key issue is the development of human resources in the region. The crises facing human resources development in Africa is clearly manifested in educational sector of Nigeria in form of limited access and poor quality. As the World Bank (2005) notes the task confronting education policy makers in Africa are to transform education institutions and current schooling practices into a global and technology driven world. Thus, the main focus of the education policy process in Africa is to address the twin challenge of increasing access to and improving quality and relevance of education for all young people in the region. In the long run, modern communication technologies are expected to widely develop for broad based technology enhanced education will be implemented through a collaborative partnership system in Africa countries. The pilot phrase of this e-learning initiative is currently being implemented in selected African countries. The NEPAD e-schools project is under the auspices of NEPADs e-African commission, the NEPADs I.C.T program implementing related projects. The school initiatives are on a multi-collaborative partnership strategy between the NEPAD major I.C.T companies departments of education in different participating African countries.

The Hausa language is generally acknowledged as a global language, in view of its numerous functions and preference over several other languages around the globe. Apart from being a language of global unification, Hausa is also seen as a veritable tool for learning, business and interactional purposes, among other functions. In view of its relevance, Hausa language is not only the mother tongue in Nigeria and Niger but also as a second and a foreign language (EFL) in many western, eastern and central African countries like Ghana, Cameroon, Sudan and many other developing countries.

Based on the foregoing, it has become imperative for Hausa Language teachers and learners to realize the fundamental role of information and communication technology as a catalyst in the advancement of the frontiers of knowledge in language acquisition which is a prerequisite to the viability of the global economic development.

Teaching and Learning of Hausa Language in the Classroom Setting

Unlike in the past when teaching of Hausa was limited to all that the teacher had to say to the learners, a situation which made learners inactive in the teaching-learning situation. Be that as it may and without mincing words, the time has come for teachers and learners of Hausa language to realize the fundamental role of information and communication technology not only in the area of language teaching and learning but also in the global economy where the profic of Hausa language is fast assuming the indispensable engine of growth and development. It has therefore become expedient to note that the effective teaching and learning of Hausa language has gone beyond the stereotypical to regimented/tradition of mere classroom teaching because of the emergence of various gadgets in information and communication technology.

According to Brown (1980) second language education has changed considerably, pointing out the importance of the use of an “electric enlightened approach” to theory building but cautions that classroom contact is still very necessary for second language learners to give real-world validity to their theory building. Brown's theoretical comments about the classroom vignettes contribute to the attainment of this goal as major methodological approaches and current issues in language teaching are depicted in these vignettes, first with the direct method, grammar translation and the Audio-Lingual method.

Similarly, Randall (2006) has admitted that technology has become a major component; a must-have in many homes around the world, with its concomitant influence permeating all facets of human lives,

including education. This is a welcome development by many as it shows the direction in which language instruction will be driven by new advancements in technology.

Role of ICT in 21st Century's Teacher Education in Colleges of Education:

- ICT helps teachers in both pre-service and in-Service teachers training.
- ICT helps teachers to interact with students.
- It helps them in preparation their teaching, provide feedback.
- ICT also helps teachers to access with institutions and Universities, NCERT, NAAC NCTE and UGC etc.
- It also helps in effective use of ICT software and hardware for teaching - learning process.
- It helps in improve Teaching skill, helps in innovative Teaching.
- It helps in effectiveness of classroom.
- It also helps in improving professional Development and Educational management as well as enhances Active Learning of teacher Trainees.
- It is now replacing the ancient technology. As we know now-a day's students are always have competitive mind. So teacher must have the knowledge of the subject. This can be done through ICT.

ICT helps teachers in preparation for teaching. In order to introduce ICT in pre-service teacher education different methods and strategies are applied. Different tools are used such as word processing, Database, Spreadsheet etc. Various technology based plans are used to help the teachers for their practice teaching.

- ICT prepares teacher for the use of their skills in the real classroom situation and also make students for their future occupation and social life.
- ICT used as an "assisting tool" for example while making assignments, communicating, collecting data & documentation, and conducting research. Typically, ICT is used independently from the subject matter.
- ICT as a medium for teaching and learning. It is a tool for teaching and learning itself, the medium through which teachers can teach and learners can learn. It appears in many different forms, such as drill and practice exercises, in simulations and educational networks.
- ICT as a popular tool for organisation and management in Institutions.
- Teachers must provide technological support to learn using motion picture, animation, simulation training which helped student teachers to give model presentation. If the Hausa language teacher is highly equipped with technology, the student will also be equipped with technology.
- It removes the traditional method of teaching and prepare teacher to apply modern method of teaching Hausa language.
- ICT plays an important role in student evaluation.
- ICT is store house of educational institution because all educational information can safely store through ICT.
- ICT helps Teacher to communicate properly with their students. So ICT bridge the gap between teacher and students.
- ICT helps Teacher to pass information to students within a very little time.
- ICT helps Teacher to design educational environment.
- ICT helps Teacher to identify creative child in educational institute. ICT helps Teacher to motivate students and growing interest in learning.
- ICT helps Hausa Teacher for organizational preconditions (vision, policy and culture).
- It is also helps Hausa Teacher for their personnel support (knowledge, attitude, skills).
- ICT helpful for technical preconditions (infrastructure).
- ICT helpful for designed learning situations which are needed for both vocational education and the training of future teachers (in the teacher training institutes).
- Teacher training institutes can develop their curriculum using ICT.

- With the help of ICT Teacher training institutes can develop communication network.
- Teachers learn most from their own networks (learning from others) with the help of ICT.

Impact of ICT on Hausa Language Teaching and Learning

Many arguments have been advanced on the impact of information and communication technology (ICT) on the teaching and learning of language. While some are of the opinion that it would make students smarter and enhance the teaching and learning of language, others posited that there is no certainty about its possibilities because many educators are not yet familiar with the technology to use and how to apply it in the teaching - learning process (Morse, 1972). For instance, there has been a great deal of debates in the past few decades on the pedagogical worth of computers in the classroom. While some researchers have suggested that technology often remains antiquated, limited to the simple writing assignments and browsing the internet (Cuban, 2001), others have suggested that this has been due in part, to educators' limited knowledge of the role played by communication technology in language instruction, a situation which shows that the use of computer is only a medium in which a variety of methods, approaches and pedagogical philosophies are implemented (Garret, 1991). This implies that the use of ICT in language education has its merits and challenges.

Prospects of the use of ICT in Hausa Language Education

Information and communication technology (ICT) is of immense help in virtually all areas of teaching and learning. In the field of Hausa language education, there is now so much emphasis on on-line learning, which has been seen as the great liberator by freeing both teachers and students to accomplish learning in new and exciting ways by sourcing information from the Internet (Schrum, 2000).

Other prospects of ICT in Hausa language can be summarized as expanding access to language programmes, improving the quality of teaching and learning, providing access to current/ up-to-date materials and offering teachers and learners an avalanche of materials in different modes.

Specifically, the United Nations Economic Commission for Africa (2006) stated amongst others that

Hausa lessons that incorporate multimedia applications can exert powerful motivation and provide bored students with exciting new ways to learn.

The use of ICTs enhances Hausa Language competence as well as the quality of learners' experience.

The effective use of ICTs removes the time and space limitations found in traditional teaching, as classroom dialogue can now extend beyond the time and space constraints.

It allows students to learn more autonomously and thereby raises self-esteem and confidence.

In enhances learners' interaction, verbalization and involvement in group collaborative learning.

It is pertinent to note that television with its array of foreign channels, as provided by DSTV and other cable channels can be of tremendous help in language acquisition. Information and communication technology helps the students to perform better in language learning than with regimented traditional classroom teaching. Online learning has the potentials to offer anyone with an internet connection access to a wide expanse but inexpensive education just as e-learning and computer allow schools to deliver classes to students anywhere in the world (Educause, 2010).

Problems/Constraints of the use of ICT in Hausa Language in Colleges of Education in North-West Nigeria

The view that the internet and other forms of information and communication technology are of immense benefit to the education system is incontrovertible. The internet is repository of enormous content but it also contains an equal amount of junk and obscene sites which, if not regulated and censored before students are allowed to work on it, can lead to all forms of moral decadence, especially among teenagers and youths. The teachers are not totally immune from the obscene sites.

The success or failure of a teaching - learning situation in Hausa language acquisition rests to a large extent on the teacher. However, it has been discovered that many teachers are yet to upgrade or familiarize themselves with ICT and its application in the classroom setting (Morse, 1972).

Considering the above notion, it can be inferred that the integration of ICTs in Hausa language education is still being faced by the general apathy on the part of both the learners and the teachers.

In addition, poverty and perhaps economic mismanagement can be seen as great impediments to the viability and sustainability of the use of ICTs in Hausa Language teaching and learning process not only in Nigeria but also in some other African countries.

Furthermore, the United Nations Economic Commission for Africa (UNECA 2000) has identified the following as major constraints to the use of ICTs in language education:

- Electricity, phone lines, internet facilities etc. are either unreliable or expensive.
- Video recorders and other ICTs are locked in storage closets because only few teachers know how to operate and incorporate them into their instructional programmes.
- ICT trained teachers often quit teaching for more lucrative jobs because teaching is not attractive especially in Nigeria.
- Poor maintenance of the existing ICT gadgets (where provided) is a debilitating factor against the use of ICT in language education.
- There are no language and computer laboratories in virtually all schools in Nigeria. Large or overcrowded classes may interfere with the objectives of the use of ICTs.

Hausa Language EducationInNigerian Colleges of Education

Hausa language education is both the vehicle of knowledge, world view and the shortest route to a child's conception and comprehension of concepts (NCCE, 2012:65). The policy on language education in Nigeria dates back to the colonial era when the Phelps – Stokes Commission of 1922 emphasized the importance of indigenous languages in the school system. The British Advisory Committee on Native Education in tropical African recommended in 1927, that the native languages should serve as medium of instruction in the lower years of primary education. The Richard's constitution of 1947 reinstated English as the official language in Nigeria while Hausa was recommended as an additional legislative language in northern Nigeria. In addition, the 1954 constitution recognized domestic and regional languages. In its article 114 (1), it recommended the use of English as a national official language and as the regional official language in the south, with Hausa as the regional language of the North with the provision that when conflicts in interpretation occurred, documentation done in English language is regarded as valid (Fafunwa, 2004).

In Nigeria, Hausa Language is used as the medium of instruction in the primary as set out by the Federal Government of Nigeria (FRN, 2009) thus: "--- the medium of instruction in the primary school is initially the mother tongue (MT) or the language of the immediate community and, at a later stage English*".* The National Policy on Education has also made Hausa a mandatory subject for Senior Secondary School Certificate Examination (SSCE) for NECO, WAEC and NABTEB along with two other Nigeria languages (Igbo and Yoruba).

Therefore, according to Federal Government of Nigeria, (FRN, 2009), it is a core subject and compulsory for senior secondary school students in the northwest geopolitical zone of Nigeria.

The objectives of teaching Hausa language in Colleges of Education include among others to; (**a**) enable students speak, read and write completely in Hausa and communicate effectively with their neighbours, (b) familiarize them with the sound system and grammatical structures of Hausa, (c) expose students to their culture, customs and institutions, and (d) acquaint them with the necessary tools needed for creative writing and appreciation of Hausa language and literature (NERDC, 2011).

Hausa language is one of the best known and widely spoken languages in West Africa. It is classified as a member of the Chadic of the Afro-asiatic family of languages. More recently, the relationship of Hausa to Cushitic, Berber and Semitic (That is Arabic and Hebrew) languages was widely recognized, (Greenberg, Kraft &Kirkgreen; Welmars& Newman, as cited in Yahaya, 2012). Hausa is largely and predominantly spoken in Nigeria and the Niger republic. Sizeable Hausa speaking communities are also found in Ghana, Cameroun, and Chad. Sizeable number also exist in Benin republic, Burkina Faso, Togo, Sudan and many of the major cities in west, north and equatorial Africa. It is estimated that eighty to one hundred million people can claim Hausa as a first language with some one hundred million non-native speakers demonstrating varying degrees of competence in the language, (Graham, 1996).

Computer Based Language Training

The Computer Based Language Training (CBLT) can be employed in teaching a wide or vast range of subjects, including Hausa language based topics. CBLT is a software which was developed to train a wide range of students on the acquisition of skills in a target language without the tutor being present. CBLT is a digital package and an interactive multimedia which can combine text, audio, graphic video, and animation with having a meaningful interaction with students. It is a digital tool that facilitates the language teaching and language learning

Also, the computer aided language assessment (CALA) package is an automated package used in/for assessing student's understanding of language instructional skills. Coupled with foregoing is the employment of Computer-Aided Language Learning (CALL) through which a teacher of Hausa as a Language in Nigeria can create internet-based simulations for role-playing activities in language learning. The simulations incorporating e-mails, charts and online creation and editing of documents are taught to motivate the oral and written communication among the participating group. In this method, students will be guided through scenarios relevant to the Nigerian social and cultural contexts as well as the scenarios relevant to the socio-cultural contexts and backgrounds of the native speakers of the Hausa Language. The teachers of Hausa Language in Nigeria always employ computer to create internet-based simulations for role-playing activities in learning Hausa as a L1. In Pakistan, their government has created what is called Rural Kiosk machine designed in Pakistan for improving the competence of the rural areas in the use of English as a L2. This "Rural Kiosk machine" is used to send and retrieve information in English as a target Language (ELTL) and has digital multilingual interface to support rural communities speaking different languages in the use and usage of English as a second Language (Kashif, 2007). In the teaching and learning of Hausa as a first language in Northern Nigeria, the teachers often employ the projector, webcam and other ICT tools in teaching the students. This always makes the teaching and learning processes to be interesting and result-oriented. However, series of problems are bedevilling the use and usage of ICT packages in the teaching and learning of Hausa Language in Nigeria. These problems, among others, include: epileptic power supply, employment of computer and ICT packages in engaging in nefarious acts and internet fraud, lack of computer and ICT facilities in schools, and also lack of personnel (Aremu, 2011). Nigerian government often fails to give proper finance to providing the digital tools in teaching Hausa as a first language. Anything that Nigerian government does towards education is often politicized. That always makes ICT facilities provided in a very few secondary schools in some states in Nigeria to be stolen few months after they were supplied. Many of the ICT buildings in Nigerian secondary schools are often employed as "visitors sitting rooms" or "staff rooms." As a result, many of them are not well-equipped with digital gadgets. This has led to poor utilization of ICT in the Hausa Language in Nigeria (Aremu, 2010; Egbe, 2009).

Recommendations

a) Colleges of education should provide more computers in their libraries.
b) Federal government should include ICT in their curriculum of colleges of education.
c) More emphasis should be laid on the teachers and students on how to use the ICT effectively.
d) ICT expert should create a soft wire for Hausa language teachers in Nigeria.

e) 60% of teaching and learning of Hausa language in the colleges of education should be online.
f) Colleges of education should build more ICT centres.
g) Assignment and other activities should be on ICT.
h) Teachers of colleges of education should attend seminars and workshops on ICT.
i) International organization should intervene on how to help the Hausa language teachers with some ICT materials.
j) Student should concentrate on the use of ICT in the classroom during teaching and learning Hausa language

Conclusion

Teaching occupies an honourable position in the society. ICT helps the teacher to update the new knowledge, skills to use the new digital tools and resources. By using and acquire the knowledge of ICT, student teacher will become effective teachers. ICT is one of the major factors for producing the rapid changes in our society. It can change the nature of education and roles of students and teacher in teaching learning process.

Teachers in Nigerian Colleges of Education can now started using technology in the class room. Laptops, LCD projector, Desktop, EDUCOM, Smart classes, Memory sticks are becoming the common media for teacher education institutions.

So, we should use information & communication Technology in Teaching and learning Hausa language in Colleges of Education.

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RELATIONSHIP BETWEEN SELF-REGULATION AND ACADEMIC ACHIEVEMENT AMONG SECONDARY SCHOOL STUDENTS IN ZARIA METROPOLIS, KADUNA STATE, NIGERIA

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Abstract
This study examined the relationship between self-regulation and academic achievement among secondary school students in Zaria Metropolis, Kaduna State. A correlational research design was used in carrying out this study. The sample size for the study consists of 367 students drawn from eight (8) randomly selected schools through cluster sampling technique. Two instruments were used (self-regulation questionnaire) and SS 2 qualifying examination result are used as measure of academic achievement. Two null hypotheses were formulated and tested at 0.05 level of significance; the data collected was statistical analysis using Pearson Product Moment Correlation. (PPMC). The findings of the study showed that, the two hypotheses were all rejected because there was a significant correlation between self-regulation and academic achievement of students in secondary schools (r=44.8 p=0.000).Based on these, it was recommended that, teachers, educators, should emphasize and promote meta cognitive strategies that encourage students, reflect on their learning process and encourage students to set goals, plan their study time, monitor their progress and evaluate the learning outcomes.

Keyword: Self-Regulation, Academic Achievement, Students, Examination result.

Introduction

Academic achievement encompasses a range of factors, including grades, test scores, and overall performance in educational pursuits. It reflects the culmination of a student's efforts, abilities, and dedication to learning. Therefore, understanding the intricacies of academic achievement is crucial for educators, Psychologists, while some students naturally excel academically, others may face challenges that impact their achievement levels policymakers, and stakeholders to develop effective strategies that maximize learning outcomes and support students in reaching their full potential. Research in the field of education consistently highlights the significance of academic achievement for students' personal growth, social mobility, and future success (Eccles & Roeser 2011). High academic achievement is often associated with improved cognitive skills, critical thinking abilities, and problem-solving capabilities. It can open doors to higher education opportunities, scholarships, and career advancements, enabling individuals to pursue their aspirations and contribute meaningfully to society (Aydin, Memnun, Dinc, Arsuk & Meric (2019).

Academic achievement serves as an essential metric for evaluating the effectiveness of educational systems, institutions and the students. It helps identify areas of improvement, gauge the impact of instructional practices, and inform policy decisions that enhance overall learning outcomes. By tracking academic achievement, educators and policymakers can identify achievement gaps, address educational disparities, and promote inclusive and equitable education for all students (Wang, Zhu, Zhen & Zhen 2010).The academic achievement of students is influenced by various factors, these factors may include self-regulation. Effective learners are self-regulating, analyzing task requirements, setting productive goals, and selecting, adapting or inventing strategies to achieve their objectives. These learners also monitor progress as they work thorough the task, managing intrusive emotions and waning motivation as well as adjusting strategies processed to foster success. These are the students who ask questions, take notes, and allocate their time and their resources in ways that help them to be in charge of their own learning (Paris &

Paris, 2001). Self-regulated students are those students who are metacognitive, motivationally, and behaviorally active in their own learning processes and in achieving their own goals. In the realm of education, the ability to self-regulate one's learning is a critical skill that empowers students to take charge of their educational journey. Self-regulated learning involves a set of cognitive, metacognitive, and behavioral strategies that enable individuals to monitor, control, and adapt their learning process. It encompasses the capacity to set goals, manage time effectively, organize study materials, employ effective learning strategies, and reflect on one's progress and understanding. Self-regulated learning is more than simply completing assignments or studying for exams, it encompasses a proactive and intentional approach to learning. Students who possess strong self-regulation skills are equipped with the tools to become active, engaged learners who can navigate challenges, regulate their motivation, and persist in the face of difficulties (Arslantas & Kurnaz 2017).

By developing self-regulated learning skills, students gain greater autonomy over their learning process. They learn to set clear and achievable goals, which guide their actions and help them stay focused on the desired outcomes. Effective time management skills allow them to allocate time appropriately for different tasks, ensuring efficient use of study periods and reducing procrastination. Zimmerman and Schunk cited in Sanrong, Kang, & Ting (2019) define self-regulated learning in terms of self-generated thoughts, feelings, and actions, which are systematically oriented toward attainment of students' own goals. Self-regulated learning is a self-initiated action that involves goal setting and regulating one's efforts to reach the goal, self-monitoring (metacognition), time management, and physical and social environment regulation. According to this position, a learner often changes and updates goals and plans while progressing through the task according to the feedback from monitoring, control and reaction processes. That means, self-regulated learners are purposive and goal oriented, incorporating and applying a variety of strategic behaviors designed to optimize their academic achievement. Sardareh, Saad, &Boroomand (2012), when self-regulated learners find inadequate learning strategies, they regulate their learning activities. Regulating refers to the fine-tuning and continuous adjustment of one's cognitive activities. Regulating activities enhance learning by employing a feedback loop during learning, and self-monitoring training has been found to enhance performance across a wide variety of academic measures. Thus, students can become better learners if they become more aware of their learning and then choose to act on that awareness.

Self-regulated learning involve monitoring one's thinking and understanding, students who possess metacognitive awareness can assess their strengths and weaknesses, identify gaps in their knowledge, and employ effective strategies to fill those gaps. They engage in reflective practices, such as self-assessment and self-evaluation, which enhance their understanding of their learning process and facilitate continuous improvement. Self-regulated learners also utilize a repertoire of learning strategies that align with their individual learning styles and preferences. They know how to select appropriate resources, employ effective study techniques, and adapt their approaches when faced with new or challenging material. These strategies may include summarizing information, creating visual aids, engaging in active discussions, or seeking clarification from instructors or peers (Pava &Nevgi 2010). Self-regulated learners are adept at managing their motivation and emotions. They understand the importance of intrinsic motivation and develop strategies to maintain their enthusiasm and interest in learning. They are resilient in the face of setbacks, recognizing that obstacles are opportunities for growth rather than insurmountable barriers can affect a student's ability to focus, pay attention, listen, or put effort into schoolwork. Self-regulation plays a crucial role in academic achievement. Students who exhibit strong self-regulation skills, are better equipped to manage their time effectively, set goals, organize their study materials, and employ effective learning strategies. These skills enable students to focus their attention, resist distractions, and persist in their academic tasks, leading to improved learning outcomes and academic success. Self-regulated learners are aware of their own abilities and what they can and cannot do; thus, they can create new ways to overcome the obstacles they encounter in the process of reaching the goals they set and try to avoid situations they think they cannot overcome. In addition, they prefer directed goals rather than performance goals and take

care to use the most effective learning strategies to achieve those (Ambreen et al., cited in Melek & Oktay, 2022).

Learning is a complex process, one which many students, despite years of schooling, still find difficult, .how to distinguish the successful secondary school students from the less successful peers? a growing body of literature supports the notion that optional academic performance is strongly tied to the degree of self-regulation the learner is capable of exercising Zimmerman cited in Sanrong et al (2019). Understanding self-regulation is very important in the development of these achievement capabilities for secondary school students. This study look at the relationship between self-regulation and academic achievement among secondary school students in Zaria Metropolis, Kaduna State.

Statement of the Problem

Giving the persistent scenario of poor academic achievement among secondary school students, a host of factors could be responsible for the situation, among the list may be the lack of self-regulation among secondary school students. Observation shows that some students lack organization which lead to missed deadlines, incomplete assignment, and difficulty in controlling emotions cannot set goals for themselves. For example, in schools the grading system indicates to the students his worth in any academic subject, also in social setting, the peers and others evaluate them in terms of their competences. All these personal worth may have a very strong negative impact on academic achievement for example, the West African Examination Council released the May/June West African Secondary Certificate Examination (WASSCE 2022), according to the examination body, a total of 1,222,505 candidates, amounting to 76.36 percent of the 1,601,047 candidates that successfully sat the examination, abstained credits and above in a minimum of five subjects, including English language and Mathematics.

The statistics represent a decrease of more than five (5) percent in performance when compared with 81.7 percent pass rate recorded in 2021. And also in the just concluded 2023 unified tertiary matriculation examination (UTME) conducted by Joint Admission and Matriculation Board (JAMB) release the first phase of result conducted within two day, in which 947000 candidates sat for the UTME examination, mass failure was recorded where by 14% pass and a whopping 86% fail. Poor academic achievement of students may persist if appropriate measures such as the students understanding themselves to enhance their academic achievement. This study therefore, investigates the relationship among self-regulation and academic achievement among secondary school students in Zaria Metropolis, Kaduna state, Nigeria.

Objectives of the study

The objective was raised to determine:

1. Relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State.

Research Questions

The following Research Questions were raised and answered:

1. What is the Relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State?
2. What is the gender influence on self-regulation among senior secondary school students in Zaria Metropolis, Kaduna State?

Research Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significance Relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State?
2. There is no significancegender influence on self-regulation among senior secondary school students in Zaria Metropolis, Kaduna State.

Methodology

The design for this study was correlation method, the wisdom for choosing the survey method will enable pertinent data to be collected in the study, this is in line with the view of Mitchell & Jolley (2007) when researchers want to find out the relationship between two or more variables then correlation design should be used. The population for this study comprises of students in the second year of senior secondary school (SS11) of public senior secondary schools in Zara Metropolis with total population of seven thousand, eight hundred and sixty-nine (7869) students. The sample of the study consists of 367 students from eight (8) senior secondary schools in Zaria Metropolis, randomly selected by the researcher., To determine the sample size Krejcie and Morgan (1970) table of selection was employed, cluster and simple random sampling technique was used .

For the purpose of collecting data for this study, two instruments was adopted, and each measured one of the variable in focused. They include, self-regulation questionnaire adopted by Miller & Brown, (1991) and academic achievement scores was measured by two general and compulsory subjects that was, General Mathematic and English Language examination scored in the SS2 qualifying (mock) examination, the examination is a standardized examination set by Education Resource Center (E R C), Ministry of Education Kaduna State, the scores were used for the analyses.

Results

Research Question one: What is the Relationship between self-regulation and academic Achievement among senior secondary school students in Zaria Metropolis, Kaduna State.

Table 1: **Mean and standard deviationthe Relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State**

S/N	Items	M	SD	
1.	Self-regulation	2.72	0.897	2.755
2.	Academic achievement	2.79	0.856	

Table 1 indicates the relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State. The mean score of self-regulation indicates 2.72 and standard deviation of 0.897, while the academic achievement indicates am mean of 2.79 and standard deviation of 0.856. However, the mean difference indicates 2.755 which is greater than 2.5. This result shows that, there is relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State

Research Question Two: What is the difference of gender on self-regulation among senior Secondary school students in Zaria Metropolis, Kaduna State

Table 2: **Mean and standard deviationthe difference of gender on self-regulation among senior secondary school students in Zaria Metropolis, Kaduna State**

		Male		Female
Items	M	SD	M	SD
I can resist temptations and stick to my long-term Academic goals	2.69	0.543	2.60	0.648
I am good at managing my time and prioritizing Academic tasks effectively	2.70	0.559	2.99	0.918
I remain composed and in control of my studies, even in stressful situations.	2.70	0.800	2.75	0.702
I have the ability to adapt to change and bounce back from Academic setbacks.	2.71	0.792	2.69	0.611

I can concentrate on school tasks without being easily distracted.	2.73	0.810	2.66	0.624
I am mindful of my thoughts and emotions, allowing me to regulate them effectively	2.63	0.716	2.13	0.856
I set realistic and achievable goals for myself in my Academics.	2.70	0.779	3.01	0.769
I can resist impulsive behaviors and think before acting.	2.92	0.897	3.02	0.767
I am proactive in seeking solutions to Academic problems rather than being passive.	2.53	1.047	3.03	0.783
I practice self-control and refrain from overindulgence in unhealthy behaviors.	2.29	0.785	2.93	0.793
	2.66	**0.772**	**2.78**	**0.75**
Grand Mean = 2.72				

The table indicates the response based on the difference of gender on self-regulation among senior secondary school students in Zaria Metropolis, Kaduna State. The aggregate mean of 2.66 was gotten from the response of the males with the standard deviation of 0.772 and the female had an aggregate mean of 2.78 with standard deviation of 0.75. Furthermore, the grand mean indicates indicate 2.72 which is greater than the decision mean of 2.5. the implication of this result is that there is no difference in gender on self-regulation.

Hypothesis One: There is no significance Relationship between self-regulation and academic Achievement among senior secondary school students in Zaria Metropolis, Kaduna State.

Table 3: Correlation analysis on the Relationship between self-regulation and academic achievement among senior secondary school students

S/N	Items	Mean	Df	r-crit	r-cal	P
	Self-regulation	2.72				
			365	44.8	57.4	0.00
	Academic achievement	2.79				

The table indicates the relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State. The table shows the r-cal of 57.5 is greater than the r-crit 44.8 and a p value of 0.00 which is less than the alpha value of 0.05.therefore, Null hypothesis that states that there is no significance Relationship between self-regulation and academic achievement among senior secondary school students, is hereby rejected.

Hypothesis Two: There is no significancedifference of gender on self-regulation among senior Secondary school students in Zaria Metropolis, Kaduna State.

Table 2: t-test analysis of difference of gender on self-regulation among senior secondary school students

S/N	Items	Mean	Df	t-crit	t-cal	p
	Male	2.66				
			365	24.9	31.8	0.01
	Female	2.78				

The table indicates the difference of gender on self-regulation among senior secondary school students in Zaria Metropolis, Kaduna State. The table shows the t-cal of 32.8 is greater than the t-crit 24.9 and a p-

value of 0.01 which is less than the alpha value of 0.05.therefore, the Null hypothesis that states that there is no significance there is no significancedifference of gender on self-regulation among senior secondary school students is hereby rejected.

Discussion

From the findings in table 2 and 3 above**,** This result points to the fact that there is relationship between self-regulation and academic achievement among senior secondary school students in Zaria Metropolis, Kaduna State. This findings in line with Sanrong et al (2019), Eccles & Roeser (2011) suggests highly self-regulative learners are academically more successful than those students with low self-regulation skills or those who lack regulation in their learning. Also form table 2 and 4 shows that there is difference of gender on self-regulation among senior secondary school students this finding is line with Paivi &Nevgi. (2010) view that, the female students as compared to the male students were in general slightly higher in self-regulation, both in the Forethought of Learning and in the Strategies in Learning, also figure out this gender difference in self-regulated learning strategies may be due to different factors including: male and female students are different considering personality traits etc.

Conclusion

From the findings of the study, it can be concluded that, self –regulation plays a significant role in the academic achievement of secondary school students. The ability to control and monitor one's thoughts, emotions, and behavior is important for academic achievement. Students who demonstrate strong self-regulatory skills are more likely to set goals, manage their time effective, and persevere through challenges. On the other head, students with low levels of self-regulation may struggle with self—discipline, time management, and goal setting, which can have a negative impact on their academic achievement.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Teachers, Educators, should emphasize and promote self-regulation strategies that encourage students to reflect on their learning process and encourage students to set goals, plan their study time, monitor their progress and evaluate the learning outcomes, provides choices and opportunities for students to make decisions about their assignments, study methods, and learning goal.
2. Curriculum planners should design a curriculum that will encourage students' autonomy in learning. And educators or teachers should try to adopt a student-centered classroom activities and encourage students to be self-regulative in their learning processes by revealing to the students new trends in self-regulated learning. As for students, they should try to improve their self-efficacy beliefs by regularly engaging in highly demanding academic tasks and develop an intrinsic motivation as they approach a new learning tasks.

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EFFECTIVENESS OF SOCRATIC TEACHING METHODIN TEACHING MATHEMATICS IN INCLUSIVE CLASSROOM IN SENIOR SECONDARY SCHOOLS IN NIGERIA

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Abstract
The objectives of educational programs at all levels in Nigeria are adequately defined and the contents are well designed thematically and structured in spiral form but the ineffective style of teaching, which the implementers uses at classroom level was reported by many researchers as the major cause of many educational problems. This prompted the current study to search for an effective method of teaching Mathematics in inclusive classroom in secondary schools. Precisely, the objectives of the study were: to compare the performance of students taught Mathematics using socratic method in disabled and the nondisabled senior secondary schools in Kano State and explore the retention ability differences between students taught Mathematics using socratic method in disabled and the nondisabled senior secondary schools in Kano State.Quasi-experimental design was used in this research. The senior secondary schools two students in Kano State during the 2019/2020 session was the targeted population, out of which one hundred and fourteen (114) students were sampled for the study. Teacher-made test was used as an instrument for data collection and the null hypotheses were tested using t-test at 0.05 level of` significance. Findings revealed that: socraticmethod was effective for teaching Mathematics in inclusive classroom in secondary schools in Nigeria. The study recommended that Inspectors and supervisors should encourage teachers to apply socratic method in teaching Economics in secondary schools (including special schools). This is because socratic method elicits expected learning in both the disabled and the nondisabled students. Furthermore, both normal students and the special students (deaf) should be combined in the same school and the same class. Since application of socratic method in teaching require much time, teachers should be in class on time and make best use of the time allocated for Mathematics.

Keywords: Inclusive Classroom, Style of Teaching, Academic Performance.

Introduction

Secondary education in Nigeria is a major gateway to higher education and employment for those who do not wish to proceed beyond that level. Citizens attending schools are not considered sufficiently prepared to function in the Nigerian society until they have graduated from secondary school. Despite this important position of secondary Education, many deaf primary school pupils who have successfully completed primary school could not access secondary school education because the special schools to take care of their disability are inadequate and are mostly located only in the metropolis. The talent in these deaf are wasted hence, grown-up neither educated nor employed and this exaggerates their negative behavior in the society especially begging! These leads to colossal wastage of educational investment and lower the number of candidates accessing tertiary education, which reduces the needed human resources in the economy.

The basic question here is that why these disabled children must undergo a special secondary school despite the fact that they have successfully attended primary school together with the nondisabled children? Various efforts by researchers in education to provide a plausible explanation for these problems have not yielded conclusive results perhaps due to the fact that not much had been done to assess the quality of teachers in terms of appropriate selection of teaching methods, as likely the main reason why the disabled and the nondisabled students could not be combined in one classroom and be taught together in secondary school. Teachers are the keystone agent of curriculum implementation. The roles of the teacher as

facilitator of learning are indispensable in the field of education. The teacher implements the curriculum at classroom level by selecting the content to be taught from the National curriculum and prepare scheme of work; prepare lesson plans and note; determine the strategies and methods for teaching; deliver the lesson and evaluate it; and finally provide feedback. According to Teachers Registration Council of Nigeria (2004), the quality of education cannot be improved above the quality of its teachers. Agoro and Akinsola (2013), posited that poor quality of teachers is the major factor responsible for the consistently poor performance of secondary school students in public examinations. The quality of a teacher depends heavily on his knowledge of selecting appropriate method(s) for teaching each topic. Among all the factors associated with a teacher in curriculum implementation, style of teaching is the backbone.

Teachers at primary schools in Nigeria adopts student-centered teaching methods (Shehu, 2014) that cares the individual needs of the child while teachers in secondary schools mostly adopts teacher-centered method (Yusuf, 2016), which doesn't carry along both the disable and nondisabled student. Therefore, there is the need for inclusive class which could only be possible at secondary school if the teachers can change the style of their teaching. Thus, the search for appropriate methods that can match subjects and individual learners became necessary. Many researchers attempted to fill this gap through the assessment of the effectiveness of teaching methods such as Abrak (2015), that reported that socratic approach is effective in teaching fine Art at senior secondary schools. Hajhosseiny (2012) also found that socratic approach is effective in helping students to develop critical thinking in social science subjects. Rahman et al (2011), conducted another study and reported that socratic approach is effective in teaching Social Studies. Socratic approach is a simple style of teaching that a teacher can adopt easily at classroom. This is because the approach requires the teacher to start the lesson by asking the students a simple question and then allow the students the opportunity to present their opinions orally in an attempt to answer the question. These generate discussion through which the expected learning could take place. If socratic approach is effective in teaching fine Art, Social Science and Social Studies, it could also be effective for teaching Mathematics at inclusive classroom and this prompted the current study hence, investigated the efficacy of socratic approach for teaching Mathematics in inclusive classroom in secondary schools in Nigeria

The following research objectives guided the study:

1. Compare the performance of students taught Mathematics using socratic approach in disabled and the nondisabled senior secondary schools in Kano State;
2. Explore the retention ability differences between students taught Mathematics using socratic approach in disable and the nondisabled senior secondary schools in Kano State.

Socratic Teaching Approach

Socratic approach was introduced by the Greek philosopher Socrates, circa 470-300 BC, known for its way of thinking through the questions and giving arguments for each answer. Socrates proposed that true knowledge was a characteristic of human nature (Stoddard & O'Dell, 2016). The Socratic approach, according to Abrak (2015), is teaching by questions whereby answers and discussions are used to elicit the expected learning. The questions enable the teacher to create a learning environment where students are encouraged to talk during class and utilizing argumentation components (Akkus, Gunel, & Hand, 2007 in Kim, 2015). In the discussion, group members have reciprocal influence over each other (Rahman et al, 2011). That is to say, the learning of one student is affected by the behaviour of other students in the discussion. Socratic approach according to Delic and Becirovic (2016), it is a dialectical approach, involving a discussion in which the defence of one point of view is questioned; one participant may lead while another to disagree with him.

The main concept in the Socratic approach of teaching is that the teacher raises many questions and through the questions, students are encouraged to think in order to answer the questions. According to Garcia, Abrego, & Robert (2017), the Greek teacher and philosopher Socrates, taught his students primarily through dialogues, in which his students explore topics through questioning. Socrates philosophical belief

posited that questioning was the only path to knowledge that was harmonious with the nature of knowledge itself (Pekarsky, 1994; Hansen, 1998; & Rud, 1997 in Stoddard & O'Dell, 2016). Socratic approach emphasises on encouraging students to think and to construct their own learning. Thinking makes students inquisitive, or simply put, encourages a higher level of curiosity. For further clarification, Suhadi et al, (2015), defined Socratic approach of learning as a process of creating an active learning environment by having exchanges of queries and responses between students and the teacher. Socratic approach is a process of interaction between the teacher and students that allows students to be more involved than teacher. After reaching a situation of students being unable to provide a response, the teacher will help to provide questions that can re-open the minds of students to think (Knezic, Wubbels, Elbers, & Hajer, 2010). The act of teaching in Socrates did not transmit information from "teacher" to "student," but was an exercise in helping students to cease their reliance on perceptual knowledge of the imperfect material world, and stimulating them introspectively gain true knowledge through logic and reasoning.

The important roles of teachers in Socratic approach are to ask students to respond by providing relevant examples; ask student to get support or approval from the members of the group with an opinion or answers; propose an example similar to that of the current situation and give an analogy in describing a concept (Peterson, 2009). Students were active learners as opposed to passive recipients of knowledge. According to Suhadi et al (2015), the purpose of dialogue is to discuss a problem in order to find a solution that is more diverse, and it leans more towards independent learning. Usually the dialogue is an interaction between two individuals, but when learning occurs in the classroom, teachers change the interaction to having the dialogue in a group. The teacher's role is to be a facilitator for the group and ensure that the group is always in dialogue by debating until all questions can be solved. All the arguments raised by the constructs will be synthesized to achieve an optimal solution. The same concept also exists in the Socratic Seminar, a series of questioning techniques with logical answers that constructs an argument and a conclusion. This technique will stimulate thought, to think more critically (Darabi, Arrastia, Nelson, Cornille, & Liang, 2011). Through dialogue, every member of the dialogue is going to feel compelled either to give an opinion or to ask something. This helps increase cognitive load and critical thinking because the questions stimulate students' brains to think.

Socrates intended to create each person being a master of his own mind and being state. We can learn from him that only the knower and true understanding along with self-developed reasoning can survive the attacks of persuasion, eloquence and any other authority. According to Douglas (2014) and Sahamid (2016), this influences the development of critical thinking, through appropriate and repeated questioning, developed self-regulating knowledge and the ability to regulate their own thoughts. This critical thinking motivates the students to have mental challenges and results academic success (Moon, 2008; Paul & Elder, 2006 in Roohani, Hashemian &Kazemian 2017), because learners can be in charge of their own learning and make use of strategies to study effectively (Hajhosseiny, 2012). Generally, Socratic approach is not teaching in the conventional sense of the word. Here the teacher is an observer, a helper, guide but not the purveyor of knowledge. Rote learning, which hampers conceptual understanding and critical thinking found in traditional method, is replaced with shared dialogues between students and teachers where both are responsible for pushing the dialogue forward through questioning.

According to Delic & Becirovic (2016), there are several key points in the Socratic approach when it is applied for learning. Firstly, its learning objective is inquiry. Its purpose is not to completely oppose students' original arguments, but partially modify their original arguments. Secondly, its method is a dialogue between the student and the teacher. The role of a teacher is to ask the questions and a students' role is to organize their experiences and their knowledge in answering the questions. Thirdly, its method not only involves an interactive dialogue between the teacher and the students, it is also inductive. The teacher continuously leads the students to reason, and then uses the counterexample to clarify the problem.

Discussion in Socratic Teaching Approach: Socratic approach of teaching engages students in thinking a situation that makes students become more active which is in line with the concept of student-centred active learning (Knezic, Wubbels, Elbers, and Hajer, 2010). The discussion in Socratic teachingapproach is intended to be a free give and take between the teacher and students and among students on a topic of concern in the course. It is characterized by probing questions from the teacher designed to elicit student interpretations, opinions, and questions. Discussion is the thought of taking a problem and investigating all options with an ultimate objective to reach a mutual understanding of the problem. Teaching by discussion can be an effective means of helping students apply abstract ideas and think critically about what they are learning. It is important to be clear about the objectives of holding the discussion and how it fits into the overall course. If possible, rearrange the seating to allow students to face one another and not make the teacher the focus of the group. If students need to prepare beforehand, provide them with appropriate materials and thought questions to guide their preparation

Discussion represents a type of teamwork, based on the principle that the knowledge, ideas, and feelings of several members have great merit than those of a single individual. In the socratic discussion, the teacher gives students an opportunity to clarify the content or ask for opinions on related topics by involving the students actively in processing information and ideas. Since student-initiated questions are more common in discussion classes, their needs and interests are dealt with more readily and spontaneously than in other methods. Discussion is a forum in which students can practice expressing themselves clearly and accurately. The processes of listening, speaking, and observing are the bases of discussion method.

Role of Teacher in Discussion. The goal of a discussion is to get students to talk purposefully about the course material. The students learn by generating their own idea through active participating in the learning process (Boghossian, 2006 in Inuwa, Abdullah and Hassan, 2017). Teacher's role becomes that of facilitator; who moderates the discussion rather than convey information. For a purposeful discussion, a teacher should not do all the talking; or talk to one student at a time. It should be remembered that the discussion is not just a matter of teacher's communication with students; it is a chance for them to share ideas. Individual style will influence the amount of control a teacher will use. Generally, the teacher's role in a discussion is not to dominate, but rather to get the discussion started, set goals, summarize, mediate, clarify, and allow all to be heard. Generally, according to Gauri (2010) in Alasoluyi (2017), it is the responsibility of the teacher to encourage every student to participate in the discussion. Through careful and patient teaching, a teacher can bring the class to a point where they interact courteously with one another, without always agreeing with each other, and do so without raising their hands to speak.

Application of Socratic Method in Teaching Mathematics

Socratic method allows the students to share ideas, develop social skills of talking and listening, clarification of ideas and promotion of teamwork. This method may take a variety of forms such as small group, round table, panel discussion, opposing panel and debate (Adeyeyi, 2003 in Abrak, 2015). In this approach, teachers are expected to ensure classroom control and discipline to avoid over discussion of point and noise.

To apply the socratic approach, the learners will either first embark on an inquiry or is confronted by a proposition contradictory to their preconceptions (Delic & Becirovic, 2016). Given that learners bring in their preconceptions as they interpret new information, questions are asked to elicit their preconceptions. As the learners become aware of their preconceptions, clarifying questions can be asked to reveal to learners what their preconceptions entail. After fully eliciting and clarifying learners' preconceptions, learners will construct hypotheses or propositions based on their preconceptions (Lam, 2011). These hypotheses or propositions will then be tested by further fact-check, critical questions, counter-arguments, counter-examples, fallacy-check, or check for contradiction, etc. Based on critical evaluation of the hypotheses, learners will then re-assess their opinions and decide whether to accept or reject their hypotheses, propositions, as well as preconceptions. According to Gose (2009) in Abrak (2015), the

sequential questioning here, which is referred to as Socratic Questioning, helps student grasp the particular concept that the teacher planned to teach.

Research Hypotheses

This study tested the following hypotheses:

HO_1: There is no significant difference between the post-test performance of disable and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State.

HO_2: There is no significant difference between the retention-test scores of disable and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State.

Research Methodology

Quasi-experimental design was used in this research work. Hence, non-randomized intact classes at Government Secondary School Mariri and Special Education School Tudun-Maliki was involved in the study. Socratic approach was used in teaching the students and from this experiment, the similarities found between the two schools' post-test performance were attributed to the effect of socratic approach.

The senior secondary schools two students in Kano State offering Mathematics during the 2019/2020 session was the targeted population, out of which sixty-one (61) students from GSS Mariri and fifty-three (53) students from SES Tudun-Maliki were selected for the study. These make a total sample of one hundred and fourteen (114) students and since it is up to fifty (50) subjects, the figure is sufficient to be a sample (Dike, 2008 in Alasoluyi, 2017). Simple Random Strategy was used in selecting GSS Mariri while SES Tudun-Maliki was purposively sampled.

Teacher-made test was used as an instrument for data collection. The reliability and item consistency index of the instrument was determined through a test- retest analysis of inquiry using Pearson Product Moment Correlation. The reliability coefficient of 0.76 was obtained, and this judged the instrument as reliable and consistent for the study. This is in line with the assertion of Spiegel (1992) in Yusuf (2018) who posited that an instrument is reliable if its reliability coefficient is between 0.5 and 1.

Results

The result of the tested null hypotheses of this research was presented in this section. The tool used for data analysis was t-test at 0.05 level of significance. The justification for using t-test according to Clarcke and Cook 2007 in Umar (2018) was because it compares the actual difference between two means.

Hypothesis One: There is no significant difference between the post-test performance of disable and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State.

The data obtained from the administration of post-test on the subjects were compared using t-test at 0.05 level of significance in testing the hypothesis one as showed in table 1.

Table 1: Results of t-test of Post-Test Scores of Disable and Nondisabled Students Taught MathematicsUsing Socratic Approach

Test	n	Mean	SD	T	*df*	α	Sig. (2 tailed)	Mean Difference	Decision
Non-disabled	53	54.97	11.84						
				14.50	137	.05	0.221	2.79	Retained
Disabled	61	52.18	12.64						

The comparative analysis in table 1 revealed that there was no significant difference between the post-test performance of disabled and nondisabled students taught Mathematics using socratic approach (t137 = 14.50, p =.221 > 0.05). The Sign. (2-tailed) value is p = .221, which was greater than the chosen significant level α=0.05. This showed there was no statistically significant difference between the two conditions. The average scores for post-test of the nondisabled students was just 2.79 marks higher than that of the disabled students. Therefore, hypothesis one that says "There is no significant difference between the post-test performance of disabled and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State" was retained. This meant socraticapproach was effective for teaching both the disable and the nondisabled Mathematics students in senior secondary schools in Kano State.

Hypothesis Two: There is no significant difference between the retention-test scores of disabled and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State.

This hypothesis was tested using t-test at 0.05 level of significance. The data collected from the administration of retention test was analysed in order to take decision about the hypothesis 2 as shown in table 2.

Table 2: Results of t-test of Retention-test Scores in Economics for Disabled and Non-disabled Students Taught MathematicsUsing Socratic Approach

Test	n	Mean	SD	t	d/	a	Sig. (2 tailed)	Mean Difference	Decision
Non-disabled	53	52.08	12.423	13.712	116	.05	0.132	3.11	Retained
Disabled	61	48.97	13.006						

The comparative analysis in table 2 revealed that there was no significant difference between the retention test means performance of disabled and the nondisabled students taught Mathematics using socratic approach (t_{116} =13.712, p =.132> 0.05). The Sign. (2-tailed) value is p = .132, which was greater than the chosen significant level α=0.05. This showed there was no statistically significant difference between the two groups. The average scores for retention-test of able students was just 3.11 marks higher than that of the disable students. Therefore, hypothesis two that says "There is no significant difference between the retention-test scores of disabled and nondisabled students taught Mathematics using socratic approach in senior secondary schools in Kano State" was retained. This meant both the disabled and the able students that were taught Mathematics using socraticapproach in secondary schools in Kano state retained learning.

Discussion

The outcome of the tested hypothesis one, which was retained divulged that socraticapproach was effective for teaching both the disable and the able Mathematics students in senior secondary schools in Kano State. This finding was in line with Abrak (2015), that revealed among others; students taught art using the socratic approach, perform better in post-test when compared to their pre-test scores. This finding also corroborates Hajhosseiny (2012), who found that socratic approach improves students in the six elements of critical thinking dispositions and elements of social interaction.

The outcome of the tested hypothesis two analysis showed that there was no significant difference between the retention test of the disable and the nondisabled students and hence, the hypothesis was retained. This meant socratic teaching approach enables both the disable and the nondisabled students to retain learning in Mathematics in senior secondary schools in Kano state. This corroborates with Abdul-Rahman (2011) in Alasoluyi (2017) who found that students in the experimental group that were exposed socratic teaching approach retained learning better than those in the control group. This finding was also in line with

Onmwirhiren (2015) that revealed that socratic approach maximises learning outcomes and academic retention better than those in the control group.

Conclusion

The result of the study, which reveals that application of socratic approach reduces the variability in the performance of disable Mathematics students when compared with that of the nondisabled Mathematics students in the post-test and the post-post-test. The study therefore, concludes that socratic approach is effective for teaching Mathematics in inclusive classroom in secondary schools in Nigeria.

Recommendations

Based on the conclusions in this research work, the study made the following recommendations:

1. Inspectors and supervisors from Nigerian Educational Research and Development Council should encourage teachers to apply socratic approach in teaching Mathematics in secondary schools (including special schools). This is because socratic approach elicits expected learning in both the disable and the nondisabled Mathematics students.
2. Both normal students and the special students (deaf) should be combined in the same school and the same class. This will improve the performance of the deaf students and reduces unnecessary government expenditure in creating special schools for deaf.
3. Application of socratic approach in teaching require much time therefore, teachers should be in class on time and make best use of the time allocated for Mathematics.
4. Federal, State and Local Governments should organise workshops and seminars for Mathematics teachers on the application of socratic approach in teaching Mathematics in senior Secondary Schools.

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DIFFERENTIAL LEVEL OF POST TRAUMATIC STRESS DISORDER AND SCHOOL ADJUSTMENT AMONG SECONDARY SCHOOL STUDENT VICTIMS OF BOKO HARAM INSURGENCY IN THE NORTH-EAST GEO-POLITICAL ZONE, NIGERIA

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Abstract
This study examined the relationship between posttraumatic stress disorder, and school adjustment among senior secondary school students in North- East Geo-political zone, Nigeria. The study adopted correlation research design. The sample of the study was 384 participants drawn from fifteen (15) Senior Secondary Schools SSII Students with symptoms of posttraumatic stress disorder identified using Checklist. Data were collected using posttraumatic stress disorder inventory (PTSDI) and collage adjustment scale (CAS). The data collected were processed and analyzed using descriptive statistics to answer research questions and inferential statistics of independent sample t= test was used to test hypotheses at 0.05 alpha level of significance. The finding shows that there is no significant difference between posttraumatic stress disorder of male and female secondary school students as vindicated by the mean of 121.16 for male students and 123.21 for female students, t= 1.25, df=382 and p= .000, there is no significant difference between school adjustment of male and female students secondary school students victims of insurgency in North East Geo-political zone, Nigeria, as vindicated by the mean of 166.01for male students and 165,16 for female students, t= .442, df=378 and p=.000. The study concluded that there are no significant differences that exist between posttraumatic stress disorder and school adjustment of male and female students. It was recommended among others that Psychologist and counselors should sensitized students' victims of school adjustment on the various coping strategies to help them manage posttraumatic stress disorder, Coping strategies should be taught to both male and female students victims of insurgency to help them minimize the risks of posttraumatic stress disorder. Teachers and school administrators should be sensitized on the usage of coping strategies to minimize the risks of posttraumatic stress disorder.

Introduction
Posttraumatic stress among students may be as a result of violent environment, death of loved ones, gun shooting, political issues which brought about the behaviour of anxiety, aggression, depression which may go unnoticed thereby leading to psychological problem among the students. Posttraumatic stress disorder (PTSD) includes fear, anger, helplessness and so on and the victims may need help from counselors, teachers and psychologist.

National Institute of Mental Health (2013), viewed posttraumatic as a serious or critical bodily injury, wound or shock. Psychologically posttraumatic can be defined as an experience that is emotionally painful distressful or shocking, which often results in lasting mental, social and physical effects to individuals. Thus in the aftermath of any communal violence, or disaster the affected victims are always left with poor social, emotional problems and shock of such large damage and loss of lives. Students in the course of their everyday life are constantly faced with violent exposures.

Shalev, (2012) in his study found out that each year many students sustain injuries from violence, death of friends or family members, and various forms of students abuse, community crisis, wars, exposure to automobile accidents where many people are killed including friends and relatives. Students are subjected to various devastating experiences which may be traumatic such as communal violence, public coercion, political violence, death of loved ones which may go unnoticed thereby leading to psychological problems among the students. The problem that students face are all indices of posttraumatic in which students may exhibit a wide range of reactions, generally referred to as Posttraumatic Stress Disorder (PTSD), which usually comes after the disaster. The Posttraumatic Stress Disorder (PTSD) includes fear, flashback, anger, helplessness and so on and the victims may need help from counselors, parents, teachers and the psychologists. Davidson and Smith (2011), in their study provided a relationship data between several early posttraumatic and broad range of later disorders. The study showed that 22% of adult psychiatric out-patients received a diagnosis of posttraumatic stress disorder (PTSD), with vulnerability to posttraumatic greatest during early student's hood and adolescence in a related study. Brooks (2008) found that veterans with combat-related posttraumatic stress disorder were more likely to have a history of student's physical, social and emotional abuse than those without posttraumatic stress disorder. Perry, (2013), also found out that the survivor while still at arousal state finds it difficult to process information because of the alteration in the functioning of the neocortex. These findings showed that students who have been traumatized remain in a state of fear and will be encompassed with difficulty in processing verbal information.

In our schools today many students are dying in silence as a result of exposure to various man-made disasters. They are victims of some unwanted behaviours or what is known as "behaviour excesses" which include aggression, anxiety, and depression this may lead to decline in their social and emotional adjustment as well the academic adjustment.

Adjustment refers to an individual general adaptation to his environment and the demands of life such as the way he relates to other people that is interpersonal behavior, handle his responsibility, deals with stress and meet his own need and life satisfaction. The society is dynamic and change is the only constant thing, so the individual's ability to review his attitude and behavior is an essential ingredient of adjustment. Social adjustment is an effort by an individual to cope with standards, values and needs of the society in order to be acceptable. It involves coping with new standards and values getting along with the members of the society as best one can be is regarded as social adjustment. According to Nwoke (2014), social adjustment is an innate psychological disposition to cope with standard, values and needs of a society in order to be acceptable, it involves coping with new standards of individual value, it refers to coping with social challenges confronting one in any given situation or environment and the innate strength to accommodate any possible outcome or change. Emotional adjustment on the other hand can be described as the behavioral processes by which human being maintain equilibrium among their various need or between their need and the obstacle of environments. A sequence of adjustment begins when a need is felt and ends when it is satisfied. Hungry individuals, for instance are stimulated by their physiological state to seek food. Therefore, they reduce the stimulating condition that impelled them to activity, and there by adjust to this particular need. Is the maintenance of emotional equilibrium in the face of internal and external stressor, this is facilitated by cognitive process of acceptance and adaption such as maintaining emotional control and coping behavior in the face of an identity crisis (Mallinckrodt 2012).Frequently intense and apparently unjustified emotional outburst lead others to judge the individual as "immature; suppression of emotional expression result in moodiness, which tends to make the individual rude uncooperative and preoccupied with self a satisfactory state of personal and emotional adjustment may say to be exist when and individual physical and psychological needs can be satisfied by socially acceptable patterns of behavior.

Academic adjustment is a broad construct which consists of many different aspects such as academic achievement, school satisfaction, school engagement and pro social behavior. Well-adjusted students usually value what they are learning, are positively involved in classroom activities and perform well

academically. But poor academic adjustment leads to poor Academic outcome, behavioral problems, discordant educational aspirations and sometimes school dropout (Adhiambo, Odwar& Mildred, 2011). Academic adjustment refers to a students' ability to meet academic demands, to be attentive, to participate in class activities, and become an independent student, while social and emotional adjustment refer to a students's ability to establish meaningful and positive relationships with teachers and peers, and feel emotionally secure (Bart, Hajami&Bar-Haim, 2007). Roeser and Eecles (1998) had also defined academic adjustment as involving not only student's academic progress and achievement, but also their attitude towards school, anxieties, loneliness, social support and academic motivation.

Statement of the Problem

Students who experience community violence, political crises, religious crisis, farmers and herdsmen crisis, kidnapping, and shooting may develop feelings of depression, anxiety and aggressive behaviour. As a result of which students may resort to unwanted behaviour which may be contrary to societal norms and values. Individual students may exhibit different behaviour patterns due to personal experiences, and this may influence their social and emotional adjustment as well as the Academic Adjustment of students. The traumatic experience may bring about poor, social, and emotional adjustment as well as academic adjustment, lack of concentration and anxiety among secondary school students. Some students may become aggressive due to the rate of community violence, kidnapping, gun shooting, anxious as they cannot cope with the violence in the environment they find themselves. they may go to school but keep re-experiencing the event even when lessons are going on, thereby having depressed mood, aggression and anxiety also students were transfer from one school to another to write their examination as a result of fear and frequent violent in the area and the likes..

Objectives of the study

The following objectives are to determine:

1. Difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria
2. Difference between coping strategies of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria.

The following Research Questions are raised and tested for the study;

1. What is the difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria?
2. What is the difference between school adjustment of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria?

Hypotheses

The following Hypotheses were raised and tested for the study;

Hypothesis 1: There is no significant difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria. **Hypothesis 2**: There is no significant difference between school adjustment of male and female secondary school students victims of insurgency in North East Geo-political zone, Nigeria.

Methodology

The section presents the methodology used in the study, the study employed correlational design to carry out the research, Waters (2017) supported the use of correlational research design in quantitative research where a researcher has two or more quantitative variables from a group of participants with the aim to determining relationship between the variables. A sample size of 384 students was drawn for this study from all senior secondary school students with symptoms of posttraumatic stress disorder. The selection is in conformity to Research Advisor (2006). Jalowiec collage adjustment scale (CAS 1987) was adapted to measure the victim's social, emotional and academic adjustment. Posttraumatic Stress Disorder Inventory

(PSDI): was adapted from Educational Media Solutions (2011) to measure anxiety, depression and aggression.

Result

Research question one: What is the difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria?

Table 1: Distribution of participants by Gender

Variables	N	MEAN	SD
Male	210	123.167	15.547
Female	174	121.167	15.946

Outcome of the Correlation statistics above showed that there is no significant difference that exist between male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria, in the level of posttraumatic stress disorder the mean and stand deviation indicates that both male and female experience similar traumatic situations in the area.

Research question two: What is the difference between school adjustment of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria?

Table 2: Distribution of participants by Gender

Variables	N	MEAN	SD
Male	210	166.018	16.946
Female	174	165.185	19.081

Outcome of the Correlation statistics above showed that there is no significant difference that exist between male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria, in the level of the usage of coping strategies, the mean and stand deviation indicates that both male and female students uses coping strategies in the area.

Table 3: T-Test on Difference between Posttraumatic Stress Disorder of Male and Female Secondary School Students Victims of insurgency in the North East Geo-political zone, Nigeria,

Variables	N	Mean	t	df	md	P-value
Male	210	121.16	1.25	382	2.05	.000
Female	174	123.21				

Table 3 indicates that there is no significant difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria, as vindicated by the mean of 121.16 for male students and 123.21 for female students, t= 1.25, df=382 and p= .000 which is lower than .05 level of significance. Thus the null hypothesis which stated that there is no significant difference between posttraumatic stress disorder of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria, is here by retained.

Hypothesis 2: there is no significant difference between school adjustment of male and female secondary school students victims of armed banditry in the North East Geo-political zone, Nigeria .

Table 4: T-Test on Difference between School Adjustment of Male and Female Secondary School Students Victims of insurgency in North East Geo-political zone, Nigeria,

Variables	N	Mean	t	df	MD	P-value
Male	210	166.01	.442	378	.833	.000
Female	174	165.18				

Table 4 indicates that there is no significant difference between school adjustment of male and female secondary school students victims of insurgency in the North East Geo-political zone, Nigeria, as vindicated by the mean of 166.01for male students and 165,16 for female students, t= .442, df=378 and p= .000 which is lower than .05 level of significance. Thus the null hypothesis which stated that there is no significant difference between school adjustment of male and female secondary school students victims of armed banditry in the North West Geo-political zone, Nigeria, Is here by retained.

Discussion

The study indicates that there is no significant difference between posttraumatic stress disorder of male and female secondary school students victims of armed banditry. The study disagreed with a study conducted by Allam (2011) and Abdullahi (2016). Allam (2011) observed the difference between male and female Eritrean students on the basis of stressful life events, It was also found that mean vulnerable to stress of male and female group of students were found. The two groups of students differs significantly (t=506, p< .05). The study disagreed with Abdullahi (2016) who investigated the influence of traumatic stress on academic adjustment among tertiary institution students in Potiskum, Yobe State. As well the study corroborated with a study conducted by Ishwari and Bhagawati (2021) who examined the relationship between Post traumatic stress disorder and coping strategies among adult survivors of earthquake in Nepal.

The study indicates that there is no significant difference between coping strategies of male and female secondary school students victims of armed banditry. The study agreed with Huijts, Kleijin, Emmerik, Noordhof and Smith (2012) Conducted a study on dealing with man-made trauma: they investigate the relationship between coping style, posttraumatic stress disorder (PTSD) symptoms, and quality of life in traumatized refugees in the Netherlands, the objectives of the study include finding the relationship between coping style and posttraumatic stress, and also between coping style and quality of life in resettled traumatized refugees. The study is in line with Luz Adriana., José Luis.[a] Daniela and Oscar (2020) who conducted a study on Direct and indirect victimization and post-traumatic stress symptoms in university students in Northeastern Mexico. The results indicate that young university students with greater direct or indirect victimization have greater symptoms of post-traumatic stress, although the correlations obtained are low disorder. The study is in line with Bayard, Kaducu, John, and Thomas (2013) also investigated the factors associated with post-traumatic stress disorder and depression amongst internally displaced persons in northern Uganda. The study agreed with Suarez (2021) conducted a cross-sectional study and examined the relationship between resilience, post-traumatic responses, exposure to violence during the conflict and current life stress on 151 Quechua women participants.. Age and gender-sensitive health care is considered critical almost fifteen years after the end of the conflict. The notable resilience of Quechua women—despite exposure to a continuum of violence and social inequalities—also calls for enhanced recognition of women not only as victims of violence but also as complex social actors in the reconstruction of post-conflict societies.

Conclusion

Based on the findings of study it was concluded that there is no significant difference between posttraumatic stress disorder of male and female secondary school students victims of armed banditry.

There is no significant difference between coping strategies of male and female secondary school students victims of armed banditry in the North East Geo-political zone, Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made;

Psychologist and counselors should sensitized students victims of armed banditry on the various coping strategies to help them manage posttraumatic stress disorder . Coping strategies should be taught to both male and female students' victims of armed banditry to help them minimize the risks of posttraumatic stress disorder. Teachers and school administrators should be sensitized on the usage of coping strategies to minimize the risks of posttraumatic stress disorder; Conferences/workshops should be organized for teachers and parents on the usage of coping strategies in managing posttraumatic stress disorder among secondary school students' victims of insurgency.

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OPEN EDUCATIONAL RESOURCES (OER) AND OPEN PEDAGOGY: EMPOWERING ACCESS TO QUALITY EDUCATION FOR ALL

BY

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Abstract
This paper explores the theme of "Open Educational Resources (OER) and Open Pedagogy: Empowering Access to Quality Education for All" by investigating the transformative potential of OER and open pedagogical practices in the context of new global realities. OER, which are freely accessible and openly licensed educational materials, have emerged as a powerful tool to democratize education and bridge the gap in access to quality learning resources. Concurrently, open pedagogy encourages learner-centered and participatory approaches, empowering students as co-creators and contributors in the learning process. The paper delves into the foundational aspects of OER and open pedagogy, elucidating their characteristics, benefits, and challenges. It emphasizes the role of OER in empowering access to quality education, particularly for marginalized communities and developing countries. Furthermore, the study highlights open pedagogy's potential to foster active student engagement, critical thinking, and collaboration, thereby enhancing the overall learning experience. While recognizing the immense promise of OER and open pedagogy, the paper identifies key barriers hindering their widespread adoption. To promote their integration at institutional, national, and international levels, the paper offers policy implications and recommendations. As conclusion, the paper advocates for the strategic implementation of OER and open pedagogy to realize a more inclusive, accessible, and innovative educational landscape. By addressing barriers and embracing the principles of openness, institutions, governments, and educators can collectively unlock the true potential of OER and open pedagogy in empowering learners and advancing education on a global scale.

Keywords: Open Educational Resources (OER), Open Pedagogy, Access to Education, Quality Education, Student Engagement, Innovation in Education, Inclusive education, Lifelong Learning.

Introduction

Open Educational Resources (OER) and Open Pedagogy play a crucial role in addressing global educational challenges by promoting equitable access to quality educational materials and fostering innovative teaching and learning practices. The importance of OER lies in its potential to provide free and unrestricted access to educational resources, enabling learners from diverse backgrounds to access high-quality materials that might otherwise be financially inaccessible. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), OER "are a strategic response to the growing demand for accessible, quality education" (UNESCO, 2019).

In many parts of the world, access to educational resources is limited due to financial constraints, geographical barriers, or lack of infrastructure. OER can significantly mitigate these challenges by offering openly licensed textbooks, lectures, course materials, and multimedia resources that can be freely accessed, shared, and modified. This openness allows educators and learners to adapt the resources to suit their specific needs, local contexts, and cultural relevance (Jhangiani et al., 2017).

Furthermore, OER encourages collaboration and knowledge sharing among educators globally. It fosters the development of vibrant communities of practice, where educators can share their expertise, exchange ideas, and co-create innovative learning materials. This collaborative nature of OER contributes to the

collective wisdom of educators worldwide and facilitates the continuous improvement of educational resources (Wiley, 2014).

Open Pedagogy, closely aligned with OER, emphasizes active student participation, learner agency, and open practices. It shifts the focus from passive consumption of information to active engagement, critical thinking, and creativity. By incorporating open pedagogical approaches, educators empower students to become co-creators and contributors in their own learning journey (Hegarty, 2015). Open pedagogy promotes student-centered learning experiences that foster deeper understanding, higher-order thinking skills, and the ability to apply knowledge in real-world contexts (Andrade et al., 2019).

In the context of global educational challenges, OER and open pedagogy have the potential to bridge educational gaps, particularly in underserved communities and developing countries. By providing free and open access to quality educational resources, OER can alleviate the financial burden on learners, increase access to learning materials, and reduce educational inequalities (Ehlers, 2011). Open pedagogy, with its emphasis on active learning and student engagement, enhances the relevance and effectiveness of education by empowering learners to connect their learning experiences with their own lives, cultures, and communities (Cronin, 2017).

Accessible and inclusive education holds immense significance in the new global realities. In today's interconnected world, where information and knowledge are readily accessible through technology, ensuring that education is accessible to all individuals, regardless of their background, abilities, or geographical location, is crucial for fostering equal opportunities and promoting social justice.

One of the key aspects of accessible and inclusive education lies in overcoming barriers that hinder individuals from accessing quality education. These barriers can include financial constraints, physical disabilities, cultural or linguistic differences, and geographical remoteness. By addressing these barriers, accessible education opens doors for marginalized groups, including individuals from low-income backgrounds, people with disabilities, and those living in rural or underserved areas, to obtain education that was previously out of reach. This fosters inclusivity and empowers individuals to realize their full potential and contribute to society.

Moreover, accessible and inclusive education plays a pivotal role in achieving the United Nations' Sustainable Development Goal 4: Quality Education for All. By making education accessible to diverse populations, including vulnerable and marginalized groups, it helps bridge the education gap and reduce inequalities. Inclusive education acknowledges and celebrates diversity, ensuring that learners from various cultural, linguistic, and socio-economic backgrounds feel welcomed, respected, and valued within the learning environment.

Inclusive education also recognizes the importance of catering to the diverse learning needs and styles of students. It embraces differentiated instruction, personalized learning approaches, and the use of assistive technologies to support learners with disabilities. By recognizing and accommodating individual differences, accessible and inclusive education promotes learner engagement, motivation, and academic success.

Furthermore, accessible and inclusive education contributes to the development of a more inclusive and tolerant society. It fosters social cohesion by promoting understanding, empathy, and respect among individuals from different backgrounds. When students from diverse backgrounds learn together in an inclusive environment, they have opportunities to exchange perspectives, challenge biases, and develop a sense of global citizenship. This prepares them to become active participants in an increasingly interconnected and multicultural world.

In order to achieve accessible and inclusive education, it is crucial for policymakers, educational institutions, and stakeholders to collaborate and implement inclusive policies and practices. This includes investing in infrastructure, technologies, and resources that support accessibility, providing professional development and training for educators, and promoting inclusive curriculum design that reflects the diversity of learners.

The purpose of this conference paper is to explore the emerging educational innovations, creativity, and research that are driving the transformation of teaching and learning in the new global realities. The paper aims to delve into the significance and impact of accessible and inclusive education in this context. It seeks to shed light on the importance of removing barriers and fostering inclusivity in education, particularly in relation to promoting equal opportunities, social justice, and the achievement of sustainable development goals.

The scope of this conference paper encompasses a multidimensional examination of accessible and inclusive education. It will delve into the barriers that hinder individuals from accessing quality education, such as financial constraints, physical disabilities, cultural or linguistic differences, and geographical remoteness. The paper will explore how accessible education addresses these barriers, opening doors for marginalized groups and empowering individuals to reach their full potential.

Additionally, this conference paper will discuss the role of accessible and inclusive education in achieving the United Nations' Sustainable Development Goal 4: Quality Education for All. It will highlight the importance of inclusive education in bridging the education gap and reducing inequalities, while fostering social cohesion and global citizenship.

Furthermore, the paper will examine the impact of accessible and inclusive education on learner engagement, motivation, and academic success. It will discuss the various approaches, such as differentiated instruction, personalized learning, and assistive technologies, that contribute to meeting diverse learning needs and styles.

In terms of its focus, the conference paper will emphasize the significance of accessible and inclusive education in the context of emerging educational innovations, creativity, and research. It will address the implications and potential of open educational resources (OER) and open pedagogy in promoting accessibility and inclusivity. It will also explore how technology, such as virtual reality and gamification, can be harnessed to enhance accessible and inclusive education.

Overall, this conference paper aims to provide insights, research findings, and recommendations that contribute to the ongoing discourse on the transformation of teaching and learning in the new global realities. By focusing on the significance of accessible and inclusive education, it seeks to advocate for educational practices that empower individuals, foster inclusivity, and promote positive societal change.

Understanding Open Educational Resources (OER)

Open Educational Resources (OER) are educational materials that are freely available and openly licensed, allowing users to access, use, modify, and redistribute them. OER encompass a wide range of resources, including textbooks, lecture notes, multimedia content, assessment tools, and interactive simulations (UNESCO, 2019). They are typically shared under licenses such as Creative Commons, which provide permissions and freedoms to users beyond what is allowed by traditional copyright.

The following are the Characteristics of OER:

1. **Free Access:** One of the key characteristics of OER is that they are freely accessible to users without any cost. This accessibility eliminates financial barriers, ensuring that educational

resources are available to anyone with an internet connection (Hilton, Wiley, Stein, & Johnson, 2010).

2. **Permissions to Modify:** OER licenses grant users the freedom to adapt and modify the resources according to their specific needs. This characteristic allows educators to customize the content, incorporate local examples, update information, and improve the resources over time (Creative Commons, n.d.).
3. **Permissions to Redistribute:** OER licenses permit users to share, copy, and redistribute the resources to others. This openness facilitates the wider dissemination and sharing of knowledge, enabling educators and learners to share valuable materials across different contexts and institutions (Atkins, Brown, & Hammond, 2007).
4. **Openness for Collaboration:** OER encourage collaboration and participation among educators and learners. They provide opportunities for co-creation and the sharing of expertise, fostering a sense of community and collective knowledge building (Wiley, Bliss, & McEwen, 2014).

Examples of Prominent OER Initiatives and Platforms are:

1. **Future Learn:** FutureLearn is a leading online learning platform that offers a wide range of courses from top universities and institutions worldwide. It provides a variety of Massive Open Online Courses (MOOCs) on diverse subjects, including humanities, social sciences, business, and more. FutureLearn emphasizes accessibility, flexibility, and interactive learning experiences. Learners can access course materials for free, although a fee may be required for additional features and certification.
2. **Open Stax:** OpenStax is a nonprofit organization based at Rice University that provides free, peer-reviewed textbooks and learning resources. Their collection covers a wide range of subjects, including math, science, social sciences, humanities, and more. OpenStax textbooks have been adopted by numerous institutions and are widely used by students and educators globally.
3. **OER Commons:** OER Commons is a dynamic online platform that serves as a hub for finding, sharing, and collaborating on OER. It hosts a vast collection of openly licensed educational resources, including textbooks, lesson plans, interactive simulations, and multimedia content. OER Commons also facilitates community engagement and enables educators to create and adapt resources to suit their specific needs.
4. **MIT Open Course Ware:** MIT OpenCourseWare (OCW) is an initiative by the Massachusetts Institute of Technology (MIT) to make the institution's course materials freely available to the public. It offers a comprehensive collection of lecture notes, videos, assignments, and exams from a wide range of undergraduate and graduate courses. MIT OCW provides learners with an opportunity to access high-quality educational resources from one of the world's leading universities.
5. **Khan Academy:** Khan Academy is a widely recognized nonprofit organization that offers a diverse range of educational resources, primarily in the form of video lectures. Their collection covers various subjects, including math, science, humanities, computer programming, and test preparation. Khan Academy's resources are designed to support both traditional classrooms learning and self-paced, independent study.
6. **Open Learn:** OpenLearn is an initiative by The Open University, a renowned distance learning institution. OpenLearn offers a vast array of free courses, materials, and resources across different subject areas. It includes interactive learning materials, videos, podcasts, and articles. OpenLearn provides learners with an opportunity to explore topics of interest and acquire new knowledge and skills.
7. **Wikimedia Commons:** Wikimedia Commons is a repository of freely usable media files, including images, videos, and sound clips. While it is not solely focused on education, Wikimedia Commons is a valuable resource for finding openly licensed visual and multimedia materials that can be incorporated into educational materials, presentations, and projects.

These platforms exemplify the diverse approaches to OER and open education, providing learners and educators with access to high-quality educational materials and fostering collaboration and knowledge sharing. Each platform offers unique features and content, contributing to the global movement toward open and accessible education.

Some of the benefits of using OER includes:

1. **Cost Savings:** One significant benefit of using OER is the potential for cost savings for students and educational institutions. OER are typically freely available online, allowing students to access textbooks, learning modules, and other resources without incurring the high costs associated with traditional commercial textbooks. According to a study by Hilton (2016), students who used OER instead of traditional textbooks saved an average of $128 per course. This cost reduction can alleviate financial burdens, increase access to educational materials, and improve overall affordability and equity in education.

2. **Customization:** OER provide educators with the flexibility to customize and adapt resources to meet specific learning objectives, instructional methods, and student needs. Unlike commercial textbooks, which are often static, OER can be modified, remixed, and localized to suit diverse educational contexts. This customization allows educators to tailor the content, examples, and exercises to enhance relevance and engagement. As indicated by Wiley, Bliss, and McEwen (2014), the adaptability of OER empowers educators to create personalized learning experiences that cater to the unique needs of their students.

3. **Increased Access to Quality Educational Materials:** OER contribute to the democratization of education by increasing access to high-quality educational resources. Traditional publishing models often limit access to proprietary materials, resulting in restricted availability, particularly in under-resourced communities and developing countries. OER, on the other hand, are freely accessible and can be shared globally. As noted by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2012), OER have the potential to bridge the knowledge gap by enabling learners from diverse backgrounds to access quality educational materials, thereby promoting inclusivity and lifelong learning.

Therefore, incorporating these benefits into educational practices can have a profound impact on learning outcomes and educational equity, making education more accessible, affordable, and adaptable to individual needs.

In order to address challenges related to OER, the following factors are important:

1. **Quality Control:** One of the challenges associated with Open Educational Resources (OER) is ensuring their quality. As OER are often created by a wide range of contributors, quality control becomes essential to maintain educational standards. It is important to establish mechanisms to evaluate the accuracy, relevance, and pedagogical effectiveness of OER materials. To address the quality control challenge, institutions can implement peer-review processes for OER creation. Peer-review involves subject matter experts assessing the content for accuracy, clarity, and alignment with learning objectives. For instance, initiatives like the Open Textbook Library employ a rigorous peer-review process to ensure high-quality OER materials (Hendricks, Reinsberg, & Rieger, 2017). Additionally, the use of quality indicators and standards, such as those provided by the Achieving the Dream OER Degree Initiative, can guide faculty and institutions in selecting and evaluating OER (Grimaldi et al., 2020).

2. **Sustainability:** Ensuring the long-term sustainability of OER initiatives is another challenge. While OER are typically free to access, creating, maintaining, and updating high-quality resources requires ongoing support and investment. Without sustainable funding models, OER initiatives

may struggle to maintain their impact and longevity. To address the sustainability challenge, institutions can explore collaborative models and partnerships. This includes engaging with government agencies, philanthropic organizations, and educational consortia to secure financial support. For example, the Open Education Group's study on OER Degree Initiatives found that collaboration between institutions and system-level funding contributed to the sustainability of OER programs (Jhangiani et al., 2016). Additionally, integrating OER sustainability planning into institutional strategies and policies can help secure long-term support and resources (Wiley & Hilton III, 2018).

3. **Institutional Barriers:** Institutional barriers pose challenges to the adoption and integration of OER within educational institutions. These barriers include faculty resistance, lack of institutional policies, technical infrastructure limitations, and concerns about copyright and intellectual property rights. To overcome institutional barriers, professional development programs can be implemented to support faculty in understanding the benefits and usage of OER. Such programs can provide training on OER discovery, adaptation, and integration into teaching practices (Winitzky-Stephens et al., 2019). Establishing institutional policies that recognize and reward faculty engagement with OER can also incentivize adoption. For instance, the University of Massachusetts Amherst implemented an Open Education Incentive Program that provides stipends to faculty for adopting and creating OER (Cheney et al., 2018).

Furthermore, addressing copyright and intellectual property concerns through clear guidelines and educational resources can alleviate faculty anxieties. Organizations like Creative Commons offer open licenses that allow creators to retain ownership while providing permissions for others to use and adapt their work (Pomerantz & Peek, 2016). Thus, by addressing quality control, sustainability, and institutional barriers, educational institutions can overcome challenges and fully leverage the benefits of OER for teaching and learning.

Open Pedagogy: Principles and Approaches

Open pedagogy is an educational approach that emphasizes active student participation, learner agency, and open practices. It builds upon the principles of openness, collaboration, and transparency in teaching and learning. Open pedagogy encourages educators to create opportunities for students to engage in authentic, real-world tasks and contribute to the construction of knowledge. This section will explore the key principles and approaches of open pedagogy, highlighting its potential to transform teaching and learning.

One of the central principles of open pedagogy is the idea of openness itself. Wiley and Green (2012) define openness as "the free, unfettered access to educational resources and opportunities" (p. 82). This principle promotes the use of open educational resources (OER) and open licenses to facilitate the sharing and remixing of educational materials. Openness allows educators and students to modify, adapt, and redistribute resources, fostering a culture of collaboration and creativity (Hegarty, 2015).

Collaborative learning is another key aspect of open pedagogy. It encourages students to work together in groups or engage in collective projects, enabling them to share ideas, perspectives, and expertise. Students can collaborate within their own classrooms or connect with peers from different locations through online platforms and tools. By engaging in collaborative learning, students develop critical thinking skills, enhance their communication abilities, and gain a deeper understanding of the subject matter (Veletsianos& Kimmons, 2012).

Authentic and real-world tasks form an essential component of open pedagogy. Rather than focusing solely on theoretical knowledge, open pedagogy promotes the application of knowledge in practical contexts. This can involve students solving real-world problems, conducting research, or engaging in community-based

projects. By connecting learning to authentic situations, students develop a deeper understanding of the subject matter and acquire valuable skills that can be applied beyond the classroom (Hegarty, 2015).

Student agency and empowerment are also fundamental to open pedagogy. It shifts the traditional role of students from passive recipients of knowledge to active participants in the learning process. Open pedagogy encourages students to take ownership of their learning, make decisions about their educational journey, and engage in self-directed learning experiences. This approach fosters autonomy, motivation, and a sense of responsibility among students (Hodgkinson-Williams & Trotter, 2018).

Implementing open pedagogy requires a shift in instructional strategies and a rethinking of assessment practices. Traditional lectures and exams may be replaced or supplemented by activities such as project-based learning, student presentations, peer evaluations, and e-portfolios. These approaches promote active engagement, reflection, and the development of critical thinking and problem-solving skills (DeRosa & Robison, 2017).

Open Pedagogy and Student Engagement

Open pedagogy, with its emphasis on active learning and student agency, has the potential to significantly enhance student engagement in the educational process. By involving students as co-creators and contributors, open pedagogy fosters deeper engagement, motivation, and critical thinking skills (Wiley, 2013). This section explores the relationship between open pedagogy and student engagement, highlighting the benefits and providing examples of effective practices.

One of the key benefits of open pedagogy is its ability to promote active learning and student-centered approaches. According to Lombardi (2007), active learning methodologies encourage students to participate actively in constructing their own knowledge and making connections with real-world contexts. By involving students in the co-creation of learning materials and experiences, open pedagogy provides opportunities for active engagement, collaboration, and critical reflection (Veletsianos& Kimmons, 2012). Open pedagogy also nurtures student agency by empowering learners to take ownership of their education. Students are encouraged to explore their interests, engage in self-directed learning, and contribute to the broader learning community (Hegarty, 2015). By giving students the freedom to shape their learning experiences, open pedagogy promotes a sense of ownership and responsibility, leading to increased motivation and commitment (Paskevicius, 2017).

Collaborative projects are a common practice within open pedagogy that fosters student engagement. For example, faculty can design assignments that require students to collaborate on the creation of openly licensed educational resources, such as textbooks, videos, or interactive modules. This collaborative process not only enhances students' subject matter understanding but also develops essential skills such as teamwork, communication, and problem-solving (DeRosa & Robison, 2017).

Another approach to open pedagogy that enhances student engagement is through the use of open educational practices (OEP). OEP involve students in the process of knowledge creation, curation, and dissemination (Andrade et al., 2020). For instance, students can contribute to open repositories by sharing their research findings, projects, or reflections, thereby participating in a broader community of learners and experts (Hodgkinson-Williams et al., 2017). This active involvement in knowledge sharing not only increases students' motivation and sense of purpose but also provides authentic learning experiences.

Evidence suggests that open pedagogy can significantly impact student engagement and learning outcomes. In a study conducted by Hegarty and Sims (2014), students who participated in an open pedagogy course reported higher levels of motivation, engagement, and satisfaction compared to traditional courses. Furthermore, students' critical thinking and problem-solving skills were enhanced through their active participation in creating open educational resources.

Thus, open pedagogy has the potential to foster student engagement by promoting active learning, student agency, and collaboration. By involving students as co-creators and contributors in the educational process, open pedagogy empowers learners, enhances motivation, and develops essential skills. Through collaborative projects and open educational practices, students actively engage in knowledge creation and sharing, leading to deeper learning experiences.

Overcoming Barriers to OER Adoption

Open Educational Resources (OER) have the potential to revolutionize education by providing free and open access to learning materials. However, despite their numerous benefits, there are significant barriers that hinder their widespread adoption. This section will explore the key challenges and obstacles that institutions and educators face when considering the integration of OER into their teaching practices.

1. **Copyright and Licensing Considerations**: One of the primary barriers to OER adoption is the complexity of copyright and licensing issues. Educators may be unsure about the permissions and usage rights associated with various OER materials. To overcome this barrier, institutions can provide faculty development workshops that clarify Creative Commons licenses and guide educators on how to select and attribute OER appropriately (Atkins, Brown, & Hammond, 2007).
2. **Faculty Perspectives and Awareness:** Faculty members might be hesitant to adopt OER due to concerns about the quality, relevance, or alignment with their curriculum. Additionally, some educators may simply be unaware of the vast range of high-quality OER materials available. Addressing these barriers involves raising awareness about OER benefits and showcasing successful case studies of OER integration in various disciplines (Bliss, Hilton, Wiley, & Thanos, 2013).
3. **Technical Challenges and Infrastructure:** Institutions need adequate technological infrastructure to support the effective use of OER. This includes reliable internet access, digital repositories, and learning management systems. Overcoming these technical barriers requires strategic planning and investment in IT resources to ensure seamless access to OER materials (de Oliveira Neto, 2019).
4. **Sustainability and Long-Term Support:** Sustainability is a significant concern for OER initiatives. The lack of a viable funding model or long-term support strategy can deter institutions from committing to OER adoption. Collaborative efforts, such as forming consortia or partnerships with other institutions, can help create sustainable OER ecosystems (Hilton III, Robinson, Wiley, & Ackerman, 2014).
5. Cultural and Institutional Barriers: In some cases, OER adoption faces resistance from entrenched practices and institutional cultures. Traditional textbook publishers and vendors may lobby against OER, posing additional challenges for advocacy. To overcome these barriers, institutions need to foster a culture of openness and innovation, incentivize OER adoption, and include OER initiatives in their strategic plans (Cox, 2016).

Conclusions and Recommendations

Key Points:

- Open Educational Resources (OER) are free and openly licensed educational materials that have the potential to revolutionize education by providing access to quality resources.
- Open pedagogy emphasizes active student participation, collaboration, and learner agency, fostering innovative teaching and learning practices.
- Barriers to OER adoption include copyright and licensing complexities, faculty perspectives and awareness, technical challenges, sustainability concerns, and cultural and institutional resistance.

Policy Implications and Recommendations:

- Policy frameworks should be developed at institutional, national, and international levels to promote the adoption and use of OER in education.

- Institutions should provide faculty development programs to address copyright issues, raise awareness about OER benefits, and showcase successful OER integration.
- Adequate technological infrastructure, such as digital repositories and learning management systems, should be provided to support OER implementation.
- Sustainable funding models and long-term support strategies need to be established to ensure the longevity of OER initiatives.
- Institutions should foster an open culture by incentivizing OER adoption and integrating OER initiatives into strategic plans.

Future Prospects and Potential:

- OER and open pedagogy have the potential to transform teaching and learning in the new global realities.
- Increased access to OER can bridge educational inequalities, particularly in underserved communities and developing countries.
- Open pedagogical practices empower students as active learners, promoting critical thinking, collaboration, and creativity.
- OER and open pedagogy facilitate the customization and adaptation of educational resources to meet diverse learner needs.
- Collaborative efforts and partnerships among institutions and stakeholders can create sustainable OER ecosystems.
- As technology advances, OER can leverage emerging tools like artificial intelligence and virtual reality to enhance educational experiences.

Thus, the conference paper highlights the importance of OER and open pedagogy in transforming teaching and learning. Policy implications include developing frameworks, fostering an open culture, and ensuring sustainable funding. Recommendations focus on faculty development, technological infrastructure, and integration of OER initiatives. The future prospects of OER and open pedagogy lie in addressing educational inequalities, empowering students, and leveraging emerging technologies for enhanced educational experiences in the new global realities.

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QUALITY ASSURANCE IN TEACHER EDUCATION: AN INNOVATIVE AND CREATIVE TOOL FOR TRANSFORMATION OF TEACHING AND LEARNING IN THE NEW GLOBAL EDUCATION REALITIES

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Abstract
In Nigeria, there are many teacher training institutions saddled with the production of highly motivated, conscientious and efficient classroom teachers for all levels of educational system. However, in spite of annual production of teachers running to thousands by these institutions, the same cannot be said of the quality of the teachers and their students. Teachers are considered poorly trained, poorly motivated and deficient in knowledge and pedagogy. Like many other business organizations, institutions of learning must be concerned with the quality of the services offered to the students and society in order to be abreast with the global reality. Since no education can rise above the quality of its teachers, any country that encourages its citizens to be creative and innovative must be conscious of the quality and strength of teachers in the system. It was on this premises that this paper critically x-rayed the need for quality assurance in teacher education as an innovative and creative tool for transformation of teaching and learning in the new global education realities. It argued that since the quality of education received by teachers determine the quality of teaching and learning and academic standard of students, it is imperative to enhance quality assurance in teacher education for improvement of education standard in Nigeria.

Keywords: Quality Assurance, Teacher Education, Teaching and Learning, Global Education Realities.

Introduction

It is often said that one cannot used yesterday's tools for today's business and expect to be in business tomorrow. The truism in this statement makes it to stand the test of time as rock. In the world today, there has been tremendous improvement in science and technology as there is hardly any facet of human life that has not been impacted by the global wave. Education as the bedrock of any meaningful growth and development in the society cannot be divorced from advancement. As society undergoes changes, so also the methods, instruments and procedures used for impacting knowledge, skills, attitudes, values and morals to the citizens needs to be in conformity with the global realities. Modern schools operate in a dynamic and ever changing environment occasioned by forces within and outside the control of schools. In line with this assertion, Aliyu, Yusuf and Said (2018) observed that the advent of computer, information technology and new methods of communication and their applications to education have all extended the boundaries of education.

Today, there is a prevailing belief that education has entered a new era in which quality plays an increasingly important role in service delivery and serves as an important key factor in invisible competition between countries (Aliyu, 2018). Like many other business organizations, institutions of learning must also be concerned with the quality of the services offered to the students and society in order to be abreast with the global reality. Since no education can rise above the quality of its teachers, any country that encourages its citizens to be creative and innovative must be conscious of the quality and strength of teachers in the system (Aliyu, 2017; & Jibril, 2020).

Globally, quality has become one of the fundamental issues given priority in educational institutions and quality assurance is one of the mechanisms used in achieving it (Oloyede & Oloyede, 2020). For many years, several ideas have been put forth by experts in the field of education as factors militating against the

actualization of a good quality education. These factors, according to Bright (2020), include poor funding, poor planning and policy implementation, inadequate facilities, truancy among teachers and students, class size or ratio, ineffective assessment/evaluation methods, inadequate qualified manpower, poor methods of teaching among others. Invariably, quality is achieved in education by ensuring that standard of learning is improved in order to get quality output (Manafa & Ihuarulam, 2019).

However, in order to critically discuss the need for quality assurance in teacher education as an innovative and creative tool for transformation of teaching and learning in the new global education realities, there is need to provide conceptual understanding of terms, so as to follow the discussion from a proper perspective.

Concept of Teacher Education

A teacher refers to a specialist who leads the learner to acquire new knowledge, skills, capabilities and all other forms of behavior which are of positive value to the learner and the society at large. Teaching occupies a critical and fundamental position in the development of any nation. It cannot be done haphazardly, as it requires a lot of training by its practitioners (teachers) through what is often refers to as teacher education. Janguza (2018) viewed teacher education as the totality of policies, procedures and provisions designed to equip prospective teachers with the knowledge, attitude, behaviours and skills required to perform their task effectively in the classroom, school and wider community. Ajiboye, Isiak and Afolayan (2018a) observed that since teacher education demand continuous professional development programmes such as workshops, conferences, seminars, mentoring, training and re-training of teachers to be abreast with current educational practices, a quality teacher must be well composed, intelligent, competent, diligent, committed, confident and knowledgeable in his choice of teaching methods to improve learning. According to the Federal Republic of Nigeria (2013), the goals of teacher education are:

a. Production of highly motivated, conscientious and efficient classroom teachers for all levels of our educational system;
b. Encourage further the spirit of enquiry and creativity in teachers;
c. Helping teachers to fit into the social life of the community and the society at large and to enhance their commitment to national goals;
d. Providing teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to changing conditions and;
e. Enhancing teachers' commitment to the teaching profession.

The goals of teacher education stated above clearly underscores the important of training and development to teachers. Teacher education institutions include Colleges of Education, the National Teachers' Institute, Faculties of Education in the conventional Universities, institutes of Education training part-time and sandwich students and Teachers' Centers in Continuing Education. In line with this assertion, Ajiboye, Isiak and Afolayan (2018b) asserted that how competent a teacher is, would determine to a large extent, the quality of teaching and learning in the school and teacher education determines how competent a teacher is in carry out such role. Teacher education simply refers to the systematic process of imparting relevant knowledge, skills, attitudes, values and orientations that would promote the production of efficient teachers toward the realization of educational goals. Teachers are the backbone and bedrock of the entire educational system ((Aliyu, 2017). They are the facilitators of learning and they play a crucial role in ascertaining whether or not the desired educational results have been achieved. This is based on the fact that the success of any nation depends to a large extent on the quality of her teachers.

Concept of Quality Assurance

For many years, the search for a universal acceptable definition of the term "Quality Assurance" has generated varying results. In line with this assertion, Aliyu (2018) observed that despite the fact that the indicators of quality assurance may differs from one organization to another, one institution to another and one country to another, it is mostly considered as a determining factor in facilitating the implementation of

any educational programme all over the world. According to Iniodu and Femi (2020), quality assurance in education involves the process of monitoring, assessing and evaluating all aspects of education activities and communicating the outcome to all concerned with a view of improving the product of education system. Abolo (2020) viewed quality assurance practices as the series of mechanisms, strategies, processes and evaluative tools put in place to ensure that there is proper control, organization and coordination of assigned duties, programmes, policies, school activities and output to meet the expected standard.

Quality assurance in education is an all-embracing concept that involves the inputs, process and output factors of educational system (Aliyu, Sunusi & Said, 2018). Federal Republic of Nigeria (2016) defined education quality assurance as a process of monitoring, assessing, evaluating and reporting objectively based on agreed quality standards, all aspects of school life to ensure that acceptable standards are attained and improved upon continually. Ajiboye, Isiak and Afolayan (2018a) described quality assurance in teacher education includes excellence in reputation, excellence in human and material resources and excellence in the outcome of educational programmes and training they have received through performance. Such qualities can be measured through student's academic performance as the outcome of efforts of teachers and educational institutions. In line with this observation, Oyewumi and Fatoki (2015) opined that education quality assurance in Nigeria is a paradigm shift from the former practice of school inspection to a monitoring and evaluation process that provides a new operative mode of evaluation. From the definitions presented above, it is evident that quality assurance is a mechanism used to evaluate the efficiency and appropriateness in teaching and learning so as to ensure quality service delivery in schools. It ensures that evaluation process and practices are carried out according to set standards that bring about improvement in teaching and learning.

Needs for Quality Assurance in Teacher Education

There is no an iota of doubt that the need for quality assurance in teacher education for transformation of teaching and learning in the new global education realities is imperative. However, Oloyede and Oloyede (2020) identified the following as the need for quality assurance in teacher education.

1. To serve as a vital component of quality control strategy in education.
2. To guarantee and maintain high standard of education at all levels of learning.
3. To assist in monitoring and supervision of teaching and learning.
4. To determine the quality of teacher input and learner output.
5. To determine the number of classrooms needed based on the average class size to ensure quality control of education.
6. To ascertain the level of adequacy of the facilities available for quality control.
7. To ensure how the financial resources available could be prudently and judiciously utilized.

In addition to the above, there are many indicators of quality assurance in education. For instance, Obasi cited in Nnodim and Aguleke (2018) identified the following as the indicators of quality education assurance.

1. Effective and efficient performance of graduate in the society, industries and other work places.
2. Employability (self, national and International) of products/ graduate. That is, graduate employment statistics.
3. National and international mobility of generated manpower.
4. Market value or demand level of research products and services provided by the institutions.
5. Level of discipline and practice of graduates. International transferability/ admissibility of graduates/ students for higher studies without remedial conditions.
6. High rating of an institution and its products nationally and internationally
7. High absorptive capacity at all levels.

From the highlighted points above, it is evident that if quality assurance is enhanced in teacher education it will improve effective teaching and learning in the new global education realities.

Strategies for Enhancing Quality Assurance in Teacher Education for Transformation of Teaching and learning in New Global Education Realities

There are many strategies of enhancing quality assurance in teacher education. According to Aliyu, Dauda and Tanimu (2020), in the pursuit of quality assurance in teacher education the following strategies are pertinent.

1. **Political Will**. Political will is essential to the success of any educational programme. Every action of school managers or administrators of teacher training institutions must have the backing of the political leaders in order to ensure success (Rufa'i, 2019). This implies that the political will of leader is paramount to the success of any educational programme. The political leaders may include the President of Nigeria, Governors of states, Minister of Education and other appointee of government that are directly or indirectly saddled with the responsibility of overseeing the affairs of teacher training institutions.
2. **Adequate Funding of Teacher Training Institutes.** Every educational programme is a capital incentive, teacher education at various teacher training institutions need to be adequately funded to achieve its mandates. Federal and state government should fund teacher education more than before in order to ensure and maintain the quality alongside its quantity. This can be done by allocating at least 26% of their budget to education and ensure its prudence usage by school administrators and managers of teacher training institutions.
3. **Constant Review of Teacher Education Curriculum.** As society undergoes changes in terms of needs and aspirations, so also the total learning experiences teachers are exposed to should be constantly reviewed to reflect the needs and aspirations of the recipients as well as the society. There must be continuous review of the curriculum of teacher education to ensure it meets with changing trends not only in education sector but also Nigeria's requirement in term of development.
4. **Establishment of Minimum Academic Standard.**In the developed world, the teaching profession attracts only the best brains and graduates who are given appropriate training and incentives. Nigeria is one of the few nations where teaching is a dumping ground and for all comers. To overcome this problem, there is need by Federal Government to ensure that minimum academic standards are established for teacher education. The standard should include both the entry requirement of academic staff, non-academic staff as well as students. This is very important as it will serve as the bench mark for operation.
5. **Quality Supervision.** Supervision is germane to successful implementation of any education programme. In teacher training institution, quality supervision should be established for staff (both academic and non-academic), staff academic progress, instructional process, school facilities or plants and overall administration and management of school. This approach complements supervision with mentorship, which is often inseparable with quality supervision.
6. **Staff Training and Development.** Qualitative staff are central to the success of any education process and quality output. Staff training and development is very paramount in ensuring quality assurance in teacher education. Staff should continually be assisted to continue to undergo workshops, seminars, conferences and refresher courses to doctoral level especially in their areas of specialization. This will kept them abreast of new techniques and innovations in their field of specialization (Aliyu, 2018). To retain these quality staff, there must be incentive programmes that provide advantage for working in teacher training institutions and not become victims of brain drain to the detriment of Nigeria's requirement.
7. **Provision of Quality Equipment and Supplies.** It is often said that "One cannot use yesterday's tools for today's business and still expect to be in business tomorrow". It is therefore expedient that all school equipment, chemicals, supplies and physical structure and other facilities used for the production of teachers should be of high quality and must conform to international best practices (Aliyu, 2018). It should also be to the comfort of both the lecturers and students.
8. **Effective Records Management System.** Record is of great important to development of any organization, education inclusive. For the effective service delivery and development of teacher

training institutions, management of information system is expedient. The information regard school activities and programmes, students' academic performance, staff records and other important records should be properly kept. In addition, management information system for teacher training institutions should be properly configured and customized to serve the information needs of the institutions.

9. **Constant Monitoring and Evaluation.**To enhance quality assurance in teacher education, there should be constant monitoring and evaluation of teacher training institutions. The aim is not only to constantly assess the level of performance with a view of finding out how far set objectives are being met. This is a formal process carried out within a school setting but also to see how the system can be assisted to improve on the present level of performance.

Conclusion

Just like the worth of any educational system or programme lies in its capability to serve its recipients and society better and remain relevant, the quality of teacher education is best judged from the perspectives of the teachers in terms of meeting their expectations and the expectation of the society. There is no an iota of doubt that quality assurance should be the major concern of all government and the school administrators in their drive towards quality education service delivery in the new global education realities. This is very vital as it relates to maintenance and provision of adequate equipment and facilities, quality of the teaching personnel, provision and maintenances of school plant, conducive learning environment, supervision, monitoring and evaluation of school activities, training and re-training of staff amongst others. This paper argued that since the quality of education received by teachers determine the quality of teaching and learning and academic standard of students, it is imperative to enhance quality assurance in teacher education for transformation of teaching and learning in the new global education realities and improvement of education standard in Nigeria.

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INFLUENCE OF MOBILE PHONE ON INSURGENCY MANAGEMENT CONTROL IN KADUNA STATE, NIGERIA

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Abstract

This study examines "The Influence of Mobile Phone on Insurgency Management Control in Kaduna State" in order to conduct the study three objectives were formulated in line with the three research questions, what are the causes of insurgency in Kaduna State Nigeria, what extent mobile phone was used to control insurgency in Kaduna State, Nigeria and What are the challenges faced while using mobile phone in controlling insurgency in Kaduna State, Nigeria. The methodology adopted for the study was quantitative research method using survey research design. The target population of this study was six (6) local government areas at Kaduna State due to the frequent attacked by insurgency. The target population of the study comprises 894,821peaple, Krejcie and Morgan's sample size calculation will be used as found on the Krejcie and Morgan's sample size determination table is used for the purpose of this study. The sample size determination is derivation from the sample size calculation which expressed as below equation. (Krejcie and Morgan, 1970.The Krejcie and Morgan's sample size calculation was based on p= 0.05 where the probability of committing type I error is less than 5% or p <0.05. Structured and closed ended questionnaire. The data collected for this research was organized, analyzed and presented using. Frequency and percentage the findings of the Illiteracy, religious and poor/bad government/leadership etc. and rehabilitation of surrendered insurgency his accounting and amnesty to surrendered insurgency acquired etc. The study concluded that, it is paramount to take collaborative measures both state, federal, international bodies and stakeholders in order to see the end of this insurgency problem in the state and country at large. The study recommends that the Kaduna state, federal, international bodies and stakeholders should collaborate and take measures and mobilizes its security apparent to address the wanton destruction of lives and properties on Poor/bad government/leadership, Political problem, Economic problem on the causes of insurgency in Kaduna State Nigeria. The Kaduna state government should create the means of Establishment of civilian JTF etc.

Keywords: Influence, Mobile Phone, Insurgency and Management Control.

Introduction

Insurgency originates from various sources. It is therefore important to investigate this at both individual and group levels. At the individual level, some experts have distinguished rational, psychological, and cultural origins of terrorism since the return to democracy in Nigeria in May, 1999 brought hopes of development and political stability to Nigeria. The last decade in Nigeria has experienced an increase in violent conflicts and criminality, which tended to undermine those expectations. The violence and criminality have come in the form of armed robbery, kidnapping, drug trafficking, arms smuggling, human trafficking and militancy, among other acts of criminality that undermine national security. insurgency is an all-encompassing approach to countering irregular insurgent warfare which can provide a clear framework for success if the situation is ripe for this type of warfare, on the other hand, counterterrorism provides a less clear framework for success but is equally complex, (Rineheart, 2010). Internal security has been significantly undercut by violent activities of civilian-in-arms against the Nigerian State. In recent years,

there has been tremendous growth in mobile phone usage in African countries and there is a projection for strong growth in future as well. The Global Information and Communications Department indicate that the mobile phone subscribers are more in African countries and the developed world countries. Cole (2005), the proliferation and significance of religiously motivated terrorist groups is notable in the period of time commonly assigned to the emergence of the new terrorism. Evidence of this claim is supported by trends that refer to the percentage of religiously inspired groups in relation to the total number of terrorist organizations, Zalman (2014) opined that religion fanaticism creates conditions that are formidable for terrorism.

Statement of the Problem

The strategy measures were adopted by the state Government in tackling insurgency in LGA involved what could be described as the "stick and carrot" approach. It was a strategy that led to granting amnesty to the kidnapers, while they lay down their arms in exchange for socio-economic benefits. In spite of the setting up of all strategy measures on amnesty for the kidnaper's insurgents, the group's terrorist activities have persisted and even escalated. This could be attributed to the fact that insurgency at the Kaduna state has both religious and political dimension to it, and the collective efforts of the military and other security agencies in the fight against insurgency the situation on the ground is worsening. The state is trouble by the apparent capture of some Areas in local government areas where the insurgents have carved.

Research Questions

The study will be guided by the following research questions.

1. What are the causes of insurgency in Kaduna State Nigeria?
2. What extent management control strategies assisted in combating insurgency in Kaduna State Nigeria?
3. What are the challenges faced while using mobile phone in controlling insurgency in Kaduna State, Nigeria?

Methodology

Survey research design was adopted for the study. was quantitative research method The target population was people in six (6) local government areas of Kaduna State due to the frequent attacked by insurgency, Krejcie and Morgan's sample size calculation was used to determine the sample of the study. The sample is (894,821) people were used as sample of the study. The sample size for this study is calculated as (384). Stratified random sampling technique was used to select the sample. A 384-item structured questionnaire was used for data collection. The data collected for this research will be organized, analyzed and presented using the tables in line with the research questions used. Frequency and percentage.

According Wisdom (2023) to the insurgency has been a major concern in Nigeria which has ultimately led to the loss of lives and properties. In recent years, the insurgency has almost taken the seat of power from the hands of elected officials to the hands of citizens who plan a coup against what they consider to be immoral or unfair. Before we move further, we should outline the meaning of insurgency in Nigeria. Insurgency is an intentionally organized movement poised at overthrowing or destructing a constituted government using a systematic approach, espionage or spying, acts of terrorism, and protest that are not peaceful. Oftentimes, the people who take part in insurgency provocation are not counted and are seen as legal and endorsed to choose what is best for the country. This is why the government at all levels put up strategic counterattacks against insurgencies. Poverty When a man is hungry, there is a natural tendency to revolt against a person or people. The high rate of poverty in the country is a catalyst for increased insurgencies in the country. Nepotism When people feel cheated and robbed of their opportunity to make ends meet just because things are not given on merit, it contributes to a high rate of hatred against a government or people. Unemployment When people do not have any job to do but want to do something, they'll easily subscribe to anything that is brought before them., Tribalism in Nigeria, some tribes think of themselves as the majority and most importantly, they have this domineering spirit and tend to dominate

others. The other faction who often feel cheated will always revolt against them. Ignorance Some people do not know what they want. They just follow the wish of a higher personality without thinking of themselves and what is important to them, Religion In the case of the Boko Haram insurgencies, we will agree that the horrible situation is crafted and masterminded by religious extremists. Poverty: When people are hungry, there is a natural tendency to revolt against a person or people. Nepotism: When people feel cheated and robbed of their opportunity to make ends meet just because things are not given on merit, it contributes to a high rate of hatred against a government or people. Unemployment, Tribalism, Ignorance.

The international community also employs economic sanctions to punish or disrupt state sponsors of terrorism. Sanctions can either selectively target specific economic sector or generally restrict trade. The purpose is to pressure state sponsors to modify or end their support for terrorism. Lastly is the deployment of security assets abroad, these deployments can include ground, air, or naval forces in large or very small operational configurations includes: - Corruption: The corrupt ridden nature of Nigerian society is found in all sectors of the economy (both private and public). The ruling government has failed to perform its duties because officials are busy amassing wealth at the detriment of the society, Unemployment: Terrorist activities sprung up as a result of unemployment. This has become a serious issue in the country and has led to joblessness of our graduates for a long time, frustration sets in and this encourages them to involve in activities that are detrimental to the society, Poverty: The vicious cycle of poverty continues to ravage the Nigerian society to the extent that majority of the citizens cannot afford three square meals per day. (Martin, 2010).

Intervention Used to Control Insurgency

Since the inception of insurgency in Nigeria, government has developed various strategies towards controlling the activities of insurgency. First is the use of brute military force against insurgent groups and deployment of over 8000 troops into affected parts of northern Nigeria, but with no clearly defined Military Code of Justice for the operation. The Nigerian soldiers in a single operation killed over 200 civilians suspected to be members of Boko Haram in the aftermath of an attack (Akande, 2013).

Second is the acquisition and development of more sophisticated, adequate and appropriate military hardware and the recent approval by the African Union and the violations of a broad-based international coalition to collaborate with our military, Although, the absence of a specific Military Code of Justice to clearly identify intended targets and protect civilians has further increased the number of casualties in Northern Nigeria. Fifth is that government encourages both public and media support to provide intelligence regarding terrorist groups or their activities. The purpose is to pressure state sponsors to modify or end their support for terrorism. Lastly is the deployment of security assets abroad, these deployments can include ground, air, or naval forces in large or very small operational configurations (Martin, 2010).

The strategies and control government administrative framework within which much of the counter-insurgency policy has been implemented, especially within the context of kidnapers and Boko Haram/insurgency are as follows:- Troops deployment and reinforcement, multinational Joint Task Force, Troops deployment and reinforcement, Putting in place the multinational Joint Task Force, Military take-over of internal security following the declaration of state of emergency, Imposition of curfew, Banning and restoration of GSM services, Establishment of civilian JTF and Setting up of road blocks.

All these measures are in line with international known standard of counter terrorism strategies. The Nigerian Government also adopted and implemented the recommendations of US General Accounting Office (GAO) which are: Prevent terrorist attacks, Disrupt and destroy terrorist organizations, respond to terrorist incidents and Co-ordinate efforts to combat terrorism The Internet and Insurgency: Fortuitously for the insurgents, technology provided a solution to their operational security problem through a combination of two other paradigm-shifting technologies: the Internet and user-friendly “strong-encryption.” The Internet, in particular, has profoundly enhanced insurgent communications, operations, and organization.

Impact on communication: The Internet's most obvious and perhaps most profound impact has been in the realm of communication. Insurgents can select from a menu of communication choices, including e-mail, instant messaging, chat rooms, websites, blogs, Voice over Internet Protocol, and related technologies, and use them as their needs arise. The history of insurgency and terrorism is so also is the history of attempts by legally constituted authorities to contain it. However, the expanding rate of occurrences accompanied by the use of advanced technologies in the beginning of 21st century has led to attempts to introduce corresponding mechanisms for managing it. Thus, introduction of the prefix counter to the words insurgency and terrorism by scholars as a way of indicating that something has to be done in an opposite direction so as to lessen the effects of these two concepts. Cameroun & Crouch (2010) in his contribution "Managing Terrorism and Insurgency: Regeneration, recruitment and attrition", argues that the issue of terrorism and insurgency revolves around three issues which include their abilities to regenerate, undertake further recruitment of new members and how to minimize casualties from confrontations with government forces.

Information technology is a tool that can actually be use to save lives; although many do not realize its application in the state and national security, By tradition, we rely on intelligence gathering by government agents (police, civil defense, soldier), strict physical security at vulnerable facilities by security guards, vigilance on the part of all citizens, however, modern information technology revolution have brought about development of powerful and evolving security apparatus that played a vital role in protecting lives and properties, detect insurgents, kidnappers, suicide bombers, criminals and apprehend culprits includes: CCTV surveillance is a way of monitoring the behavior of people for the purpose of influencing, managing or protecting those. It is very useful in maintaining social control, recognize or monitor violent or crime scene and assist in investigating criminals and insurgents' activities. Biometrics is a technology that stores, measure and analyses physiological and behavioral characteristics of human being for authentication, identification or screening purpose. For example, information for uniquely recognizing human being based upon one or more intrinsic physical traits such as fingerprints, iris scan facial patterns and DNA. Traditional institutions in Africa are pre-colonial agencies established through kinship and entrusted with the responsibility of ensuring the actualization of peoples political and socio-economic needs base on their cultural norms and values and hence they are often referred to as custodians of traditional norms, practices and values (Nweke 2012, Orji and Olali 2010).

Table 1: Causes of Insurgency in Kaduna State Nigeria

Causes of insurgency	Respondent	Percentage
Economic problem	5	4.2%
Political problem	8	6.7%
Religious	15	2.5%
Poor/bad government/leadership	10	8.33%
Social injustice and exclusion	1	0.83%
Illiteracy	45	37.5%
Total	**86**	**100**

Table 1 revealed that, Illiteracy with 45(37.5%) had the highest percentage, followed by Religious with 15(2.5%), followed by Poor/bad government/leadership with 10(8.33%) while Political problem with 8(6.7%), then Economic problem with 5(4.2%) and social injustice and exclusion with 1(0.83%) are with the lowest percentage. From the result it can be deducted that, Illiteracy, Religious and Poor/bad government/leadership were the main causes of insurgency in Kaduna State Nigeria inline by matin Martin, (2010) that seas Unemployment: Terrorist activities sprung up as a result of unemployment. This has

become a serious issue in the country and has led to joblessness of our graduates for a long time, frustration sets in and this encourages them to involve in activities that are detrimental to the society.

Table 2: Extent management control strategies assisted in combating insurgency in Kaduna State, Nigeria

Extent management control strategies assisted in combating insurgency	Respondent	Percentage
Sealing-up the borders	60	16.75%
Rehabilitation of surrendered insurgency	185	51.67%
Amnesty to surrendered insurgency	85	23.74%
Establishment of civilian JTF	28	7.82%
Total	**358**	**100**

Table 2 revealed that, Rehabilitation of surrendered insurgency with 185(51.67%) had the highest percentage, followed by Amnesty to surrendered insurgency with 85(23.74%), then Sealing-up the borders with 60(16.75%). While establishment of civilian JTF with 28(7.82%) is the lowest percentage. From the result it can be deducted that, Rehabilitation of surrendered insurgency, Amnesty to surrendered insurgency and Sealing-up the borders were the main Extent management control strategies assisted in combating insurgency in Kaduna State, Nigeria.

Table 3: Challenges faced while using mobile phone in controlling insurgency in Kaduna State, Nigeria

Challenges faced while using mobile phone in controlling insurgency	**Respondent**	**percentage**
Poor network connectivity	190	53.07%
Lack of constant electricity supply	45	12.56%
Lack of network coverage	90	25.13%
Lack of infrastructure	15	4.18%
Lack of available fund	18	5.02%
Total	**358**	**100**

Table 3 Poor network connectivity with 190(53.07%) had the highest percentage, followed by Lack of network coverage with 90(53.07%) while Lack of constant electricity supply with 45(12.56%) followed by 18(Lack of available fund then Lack of infrastructure with 15(4.18%) From the result it can be deducted that, Poor network connectivity and Lack of network coverage were the main Challenges faced while using mobile phone in controlling insurgency in Kaduna State, Nigeria Akande, (2013) disagree that they face a range of challenges to their democratic order and state legitimacy; powerful business groups frequently shift their alliances between the state and the insurgents based on who they think can best protect trade and provide stability.

Conclusion

The study concluded that, it is paramount to take collaborative measures both state, federal, international bodies and stakeholders in order to see the end of this insurgency problem in the state and country at large.

Recommendations

1. The study recommend that the Kaduna state government management should take more Political problem, Economic problem) and social injustice and exclusion on the causes of insurgency in Kaduna State Nigeria.

2. The Kaduna state government should create the means of establishment of civilian JTF as the Extent management control strategies assisted in combating insurgency in Kaduna State Nigeria.
3. The Kaduna state government management should bring a solution to the Lack of constant electricity supply, Lack of available and Lack of infrastructure were the Challenges faced while using mobile phone in controlling insurgency in Kaduna State Nigeria.

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ASSESSMENT OF ONLINE FACILITATION FOR THE REINTEGRATION OF SCHOOL DROPOUTS IN SABON-GARI LOCAL GOVERNMENT AREA, KADUNA STATE, NIGERIA

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Abstract
The phenomenon of school dropout is a serious issue in various communities in Northern Nigeria. The trend has negatively impacted the educational development of the region. This is against a widely belief that effective participation of citizens in educational activities stimulates national development of the country. Hence, this research assessed online facilitation for the reintegration of school dropouts in Sabon-Gari Local Government Area, Kaduna State, Nigeria. The research has the following objectives: to determine how online facilities can be employed to enhance accessibility for school children; and to identify the challenges that can hinder the adoption of online facilities in accessing education for school children in the study area. Methodological approach used was triangulation. Findings from the study revealed that the basic requirements for the starting of online education were lacking and insufficient and many of the parents did not own personal computers and lacked basic computer literacy skills for online education in the study area. The study concludes that online education has been found to be developmental, particularly in reintegrating school dropouts. Therefore, the study recommends that children should be enlightened on the importance of education; parents should prioritise the basic needs of their children and play key role in ensuring that they are enrolled in schools, and that the federal government should give all necessary support to all schools across the country to practice online class.

Keywords: Learning, Distance education, Online facilitation, Reintegration, School dropout.

Introduction

Recognising education as a basic human right and realizing its social and economic benefits, the majority of the world's governments have signed significant agreements such as the Universal Declaration of Human Rights and the Convention on the Rights of the Child, to provide equal and quality schooling facilities to people of all backgrounds (Ghazi, Ali, Shahzad &Gulap, 2016). The Declaration emphasised on equity and access to basic education by eliminating all kinds of gender and socio-cultural disparities and prejudices. Similarly, the World Conference on Education for All held in Jomtien, Thailand, planned to provide equal educational opportunities to everyone and meet their basic learning needs as well as attaining Universal Primary Education (UPE) (Inter Agency Commission, 1990). The report by United Nation, World Education in Dakar (2000) showed that the efforts to make education accessible for all resulted in the enrolment of 82 million children in primary schools in 1990.

The United Nations (2015) also reported that a progress in the school enrolment of children had resulted in the achievement of 90 percent primary enrolment by 2012, which was 7 percent higher than in 2000. The global report showed that 58 million children were still found to be out of school in developing regions of

the world, although, it was traced to a high dropout rate. It further highlighted that of every four enrolled children, one or more were likely to drop out of school before completing primary school in those regions. The United Nations (2015) also reported that sub-Saharan African countries had substantial progress in terms of school enrolment which increased by 18 percent from 2000 to 2012, but the rapid growth in population, conflicts and other disasters left 33 million children out of school in the region. It further revealed that the primary school dropout rate remained at 40 percent in sub-Saharan Africa between 2000 and 2011.

United Nations International Children's Emergency Fund (UNICEF, 2012) disclosed that Nigeria accounts for 45 per cent of the growing number of out of school children in West Africa. Citing the Multiple Indicator Cluster Survey (MICS) data report, UNICEF noted that while southern states have an average of 11 per cent of children aged between six and 14 years out of school, northern states where this study is situated, have an average of 31 percent. It stated that of the 13.2 million out- of-school children in Nigeria, 7.9 million (or 69 per cent) are in the northern States (Ghazi et al., 2016). In spite of the several measures put in place by all governments to ensure that education was made accessible to all and sundry, it was discovered that some students were still left out of school (United Nation, 2000). Accordingly, there were about 113 million children out of school and approximately 880 million adults in the year 2000 and school dropout was identified as the major problem to the Universal Primary Education targets.

It is widely believed that for a country to be fully developed, all her citizens must be given equal opportunity to education. Hence, school dropout can serve as an impediment to such development. This is because different studies have linked the high rate of insecurity in the country to youths who dropped out of school. Therefore, the developing the country is a cause of serious concern to all well-meaning Nigerians. This tends to suggest that our educational system is in trouble and thus needs a very serious attention in refocusing it and restructuring it for the attainment of national goals. In Nigeria of today, Senior School Certificate is considered as the minimum required for most jobs and status positions. This development has serious implications for the economic well-being of dropouts and the society at large. In this era of global economic meltdown and global economic competitiveness, Nigeria as a nation that has vision must make concerted efforts to raise the educational attainment of all its youths who are the leaders of tomorrow.

Many young people face hardships accessing and/or completing formal primary/secondary schools, either because they never enrolled, attended school or dropped out prematurely (Moyi, 2013). According to UNESCO and United Nation Institute of Statistics (2018), the education deprivation in northern Nigeria is driven by various factors, including economic barriers and socio-cultural norms and practices that discourage attendance in formal education, especially for girls. Getting school dropouts back into education poses a massive challenge. Furthermore, in Nigeria, the proportion of out of school children has stalled in the last few years, a signal that programs focusing on its reduction such as school feeding, free education, distribution of uniforms, provision of infrastructures, etc. may not be yielding the expected results, hence, the need for online facilitation as a paradigm shift to enhance the reintegration of school drop-out children.

Children are born, grow up and live in a world where digital technologies are ubiquitous. The 4th industrial revolution, the term originally coined by Samarguliani (2017) to describe the spread of digital technologies, affects all aspects of life, from health to commerce, from social interactions to the way people work. Education systems are no less affected, not only because technology can impact the way education is delivered, but also because education has a role to play in preparing young people for a tech-driven world. While many studies have been conducted on school dropout, only a few study were conducted online education, particularly, assessing its relevance to reintegrate dropped outs and out of school children.

Statement of the Research Problem

One in every five of the World's out of school children is in Nigeria. Even though primary education is officially free and compulsory, about 10.5 million of the country's children aged 5-14 years are not in

school (UNESCO & UIS, 2018). Only 61 percent of 6-11 years old regularly attend primary school and only 35.6 percent of children aged 36-59 months receive early childhood education. In the Northern part of the country where Kaduna is situated, the picture is even bleaker, with a net attendance rate of 53 percent (Hussaini &Gyong, 2018). The education deprivation in Northern Nigeria is driven by various factors, including economic barriers and socio-cultural norms and practices that discourage attendance in formal education.

Overtime, the Kaduna State government has made concerted efforts to address the long-standing problems of low enrolment and poor educational quality, particularly at the primary and secondary education levels.

There is no doubt that the digital world is increasingly penetrating the education and skills domain, with technology gradually being used to deliver education, knowledge and skills in new and innovative ways. The use of these technologies has contributed to transforming learning and skills development into a lifelong process (Tanner, Noser & Totaro, 2019).

Empirical evidence on the effects of using digital technologies for educational purposes and for improving learning outcomes is still scarce and the findings are mixed (Bigatel& Williams, 2015). However, several potential benefits are already apparent. The use of technology could provide innovative and stimulating learning environments, facilitate individualised learning and increase student motivation (Burn &Thongprasert, 2015). There had been many studies previously conducted on school drop-out in Nigeria, however, little or no study was conducted on the linkage between reintegration of dropouts and online education. Therefore, this study assessed online facilitation for the reintegration of school drop-out in Sabon-Gari LGA, Kaduna State, Nigeria.

Objectives of the Study

1. To examine how online facilitation can beused to reintegrate the school dropouts back to school in Sabon-Gari Local Government Area.
2. To identify the likely challenges of online facilitation in enhancing learning among school dropouts children in the study area.

Methodology

The study was conducted in Sabon-Gari Local Government Area, Kaduna State, Nigeria. The population of the area is diverse, with people from different socio-economic and cultural backgrounds. The study population included children who had dropped out of school, their parents or guardians, secondary school teachers, principals, and community leaders. Both primary and secondary data were used in the study. Primary data were collected through the administration of questionnaires and in-depth interviews with the research participants. Secondary data were obtained from school records, particularly school registers.

A multi-stage sampling technique was employed. Four wards were randomly selected out of eleven, and four public secondary schools were purposively chosen within these wards. The sample size for the study was 126, and snowball sampling was used to locate and select the dropouts for questionnaire administration. For qualitative data collection, purposive and snowball sampling techniques were used. Forty key informants, including parents/guardians, teachers, and principals, were selected for in-depth interviews. Questionnaires and in-depth interview guides were used as the instruments for data collection. The questionnaires were used to collect quantitative data, while the in-depth interview guides facilitated qualitative data collection.

The quantitative data collected were analysed using the Statistical Package for Social Sciences (SPSS) software. Descriptive statistics such as frequency and percentage tables were used to interpret the findings. For qualitative data analysis, in-depth interviews were transcribed and coded using NVIVO 12 software.

Similar themes and patterns were identified, and the data were organized accordingly. The analysis involved interpreting the themes and patterns that emerged from the data.

Socio-Demographic Characteristics of Respondents

This section presents and analyses the socio-demographic characteristics of respondents who participated in the study.

Table 1: Socio-Demographic Data of School Dropouts

Variables	Options/Responses	Frequency (118)	Percentage (100.0)
Age	15 years and below	7	5.9
	16-22 years	18	15.3
	23-29	84	71.2
	30 years and above	9	7.6
Sex	Male	82	69.5
	Female	36	30.5
Marital Status	Married	46	39.0
	Not Married	72	61.0
Current Occupation/Engagement	Trading	2	27.1
	Farming	55	46.6
	Artisanship	14	11.9
	Menial job (bricklaying)	12	10.2
	Others	5	4.2
Ethnic origin	Hausa/Fulani	102	86.4
	Igbo	6	5.1
	Yoruba	8	6.8
	Others	2	1.7
Religion	Christianity	110	93.2
	Islam	8	6.8

Table 1 presents the socio-demographic characteristics of the respondents who participated in the study.

Table 2. Challenges experienced by respondents while using online facilities

Items/Variables	Frequency (118)	Percentage (100.0)
Cost of internet data	112	94.9
Poor/slow network/Unstable internet connection	110	93.2
Cost of online facilities	106	89.8
Poor power supply/electricity	117	99.2

Source: Fieldwork, 2023

Table 2 presents the views of respondents on the challenges they experienced while using online facilities.

Major Findings

The findings of the study established that the issue of school dropout was a challenge in the study area, the findings uncovered that the basic requirements for the starting of online education were lacking and insufficient. It was established that many of the parents in the study area did not own personal computers such as desktop, laptop, smartphones, etc. It was also discovered that the lack of basic computer and literary skills could hinder the success of online education in the study area. Findings affirmed that power instability, poor network, and lack of external power sets such as generator, inverter, solar, among others, could affect the progress and success of online education in the acquisition of knowledge and reintegration of school dropouts.

The findings showed that online education can be used to acquire knowledge and reintegrate school dropout. The study established that online education could be used to achieve a lot in education particularly for expanding learning opportunities, increasing the relevance and quality of instructional materials and personalising learning/promoting convenient learning.

The findings also revealed that costs (unaffordability), increased level of isolation, low level of self-discipline, and high time consumption could jeopardise the efforts towards knowledge acquisition and reintegration of school dropouts. The study found out that fostering of social and personal interaction might fairly be possible in online education, although, was found to be convenient and flexible. Furthermore, the study established that loss of interpersonal and cooperation skills as it does not create room for physical but virtual interaction, problems of connectivity due to network problems and porosity of privacy/computer to cyber-attacks/viruses as problems associated with online education. Also, findings show that online education might become a problem due to difficulty involved in switching from traditional face-to-face to virtual classroom,slow adaptation in changing styles, distractions caused by unnecessary adverts, chats, pop up messages, etc.

Conclusion

This study has established that online education has been found to be developmental particularly in reintegrating school drop in not only in Nigeria but also all other developing countries due to its affordability, convenience and abundant platforms for knowledge acquisition. However, there are basic requirements such as computers, internet, literacy and computer skills, etc., needed for online education to materialise. In this study, it was found out that many of the basic requirements were lacking and such could jeopardise the efforts taken towards reintegrating school dropouts. Therefore, the study concludes that for a successful reintegration of school dropouts through online facilitation or education, the basic requirements for the operation need to be put in place.

Recommendations

Based on the findings of the study and conclusion drawn, the following recommendations are made:

i. Efforts should be made by schools and their administrators towards adopting early intervention strategies by identifying issues related to poor attendance, boredom, family obligations or challenging issues in a student's educational career.

ii. Mechanisms should be put in place to prevent distractions while taking lectures online. each aspect of online teaching should be formulated in a way that promotes productivity and the effectiveness of online learning.

iii. More funds should be invested into developing high quality resources and well-designed online experiences. Governments and NGOs should make provision for the basic requirements needed for the operation of online education/facilitation in the study area.

iv. Governments and NGOs should make provision for the basic requirements needed for the operation of online education/facilitation in the study area. Similarly, online education managers in partnership with governments and other organisations should ensure that every dropped out students targeted for reintegration should be provided with literacy skills, computers, internet and other facilities that will aid the success of the project goal.

v. There is need for school environment to be improved. More teachers should be enrolled, and more schools should be built close to people. There is also a need for the government and development partners to improve infrastructure in schools; that is, more classrooms should be constructed, teachers' performance monitored to ensure that they are doing the right thing.

vi. The parents of school dropouts should be involved at all levels of decision to enable them understand ways to convince their children and have access to basic information that may encourage them to enrol them back in school. Children should be enlightened on the importance of education and efforts should be made to substitute any means through which money is sourced by these children.

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vol. 9, no.6, pp.1-3., nov.-dec.

A META REVIEW ON RECORDS MANAGEMENT STUDIESFOR FUTURE USE

BY

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Abstract
This paper focuses on meta review on some records management studies for future use. It presents the studies based on the following areas: type of records generated by individuals and organisationsfor community services procedures through which records are managed, procedures through which records are accessed, purposes of utilization of records and extent at which records managed satisfy the need of the owners. The studies were conducted in different fields such as education, health care, financial aspect among others. also, the studies were conducted across the globe by different scholars in order to add to the body of knowledge which can be used for societal development. It is concluded that records management studies were conducted from different organisations such as universities, hospitals, secondary schools, local government areas, among others. This tells the scope of studies conducted in the fields of records management and can be used to identify gap in the field so that future researcher can made decision with regard to the studies in the field and contributing in the emerging educational innovations, creativity and research for transformation of teaching and learning in the new global education realities. . **Key words:** Management, Meta, Records, Review.

Background

The place of records management in the society cannot be over-emphasised. They are created in the process of activities carried out by individuals and organisations which include meeting, teaching, sourcing and making donations to less privileged persons in orphanage homes, hospitals among others. The records are also created in the process of service provision to people in order to alleviate their sufferings, provision of support to unemployed youths, widows among others (Sarikas, 2018). Before, during and after these activities, records are generated, distribute, use, maintained and disposed. These constitute components of records management. These activities of records management are carried out by individuals and organisations in the process of community service. Individuals and organisations generate records that are used to solicit for support, invite people to the event, notification of the event etc. without which their activities are hardly realized. They distribute some of those records to individuals (community leaders, security agents, beneficiaries among others) and organisations (donor agencies, beneficiary agencies etc.). They use the records as evidences of the activities. Such records are maintained for administrative, historical and other purposes (Society of American Archivist, 2019). At the end, the records are disposed by the individuals and organisations. Scholars conduct studies on records management by identifying gap in knowledge in order to make such studies different from such already existed. This study aims to help researchers in records management to know the existing studies conducted in the field across the globe in order to make their own different for the contribution to the body of knowledge to contribute in the emerging educational innovations, creativity and research for transformation of teaching and learning in the new global education realities.

Summary of Some of the Studies conducted on records management across the globe

The following are some of the studies conducted in the field of records management by different scholars globally:

Studies backing the types of records generated in the society

Studies were conducted revealing the types of records generated in the society by different scholars. The following are some of these studies:

Adamu, Ibrahim, Adamu, Ibrahim and Muhammad (2018) studied use of audio-visual materials in teaching and learning of classification of living things among secondary school students in Sabon Gari Local Government Area of Kaduna State. Audio-visual materials also called videos are very important in teaching and learning. One of the objectives of this study was to find out the effect of the use of audio-visual materials on the academic achievement of students. Quasi-experimental research design was used. The finding of this study among others indicated that videos were records generated and used in teaching and learning in the school. It was concluded that the use audio-visuals otherwise called videos in teaching classification of living things played the role of enhancing students' academic performance in secondary school students in Sabon Gari Local Government Area of Kaduna State.

Hassan (2017) conducted a study titled assessment of the provision, utilization and maintenance of records in public secondary schools in Kaduna Metropolis, Kaduna State, Nigeria. Records are important sources of information regarding school management. Some of the objectives used were to find out the provision of statutory records, determine the utilization of statutory records, determine the maintenance of statutory records in public secondary schools in Kaduna Metropolis. Descriptive survey research design was adopted for this research. It was discovered among others that calendars were the records generated in the schools. They were used to inform the public about the activities or events engaged in by the schools. It was concluded that there was adequate provision, utilization and maintenance of records in public secondary schools in Kaduna Metropolis, Kaduna State, Nigeria.

Nirajan, Richard, Peter, Thomas and Andrew (2018) conducted a study on development of on-site poster to influence pedestrian jaywalking behavior. Jaywalking and distracted walking behaviors are traffic violations that contribute significantly to road traffic crashes, including crashes at intersections. Jaywalking blitzes by police after pedestrian crashes may not address many of the issues that cause the vast majority of these crashes. However, posters are used by people to acquire information even during walking on the streets. The objective of this study was to design an intersection safety poster to influence jay walking behavior. Survey research method was used in this study. From the study, it was found out among others that posters were the records generated for information dissemination to the pedestrians. It was concluded that posters were important tools of information dissemination. They are used as communication tools to promote desirable pedestrian behavior.

Geremew (2017) investigated the practices and challenges of public relations within two Ethiopian towns: Harar and Dire Dawa. Records inform of notice carry information aimed to notify the general public about a particular programme. The objectives of this study were to find out the roles and functions of public relations within the organizations in Harar and Dire Dawa towns, among others. Survey research method was used in this study. It was found out among others that records in the forms of documents of notice to the general public were used to communicate to the public. It was concluded that records in the forms of documents of notice to the general public were important tools of communication.

Aliyu (2017) investigated the effects of pictures and realia on academic performance of junior secondary school students in basic technology in Kaduna State, Nigeria. Records in the forms of photographs are very important in the society. The objective of this study among others was to determine the effect of pictures and realia on the academic performance of junior secondary school students in basic technology. The study adopted pre-test, post-test, control group design. It was revealed among others that photographs were records used to teach students in the school. In conclusion, it was clear that the used of pictures and realia in teaching improved the academic performance of junior secondary school students in basic technology in Kaduna State, Nigeria.

Studies conducted revealing the procedures through which records are managed in the society
Studies were conducted revealing the procedures through which records are managed in the society by different scholars. The following are some of these studies:

Abdulrazaq (2015) studied management of university records for effective administration of universities in North-Central Nigeria. Records management is an important issue in the management of the university system. The research questions used sought to find out the types of filling, retention, and disposal methods being used to enhance effective management of records administration, extent at which the staff needed for records management to enhance effective administration, types of storage facilities made available for records management to enhance effective administration of universities in the North Central Nigeria, among others. A descriptive survey research design was adopted in carrying out this study. The finding of this study among others indicated that cupboards were used in keeping the records of the universities in North-Central Nigeria. It was concluded that records play immeasurable roles in administration because managers and administrators employ them on a routine basis for carrying out diverse administrative duties especially decision making.

Xi, Shin-Ping, Daniel, Nengliang, Vimal, Alan and Colin (2019) studied measuring electronic communication networks in virtual care teams using electronic health records access-log data. Electronic health records are important sources of information concerning health care system. The objective of this study was to develop methods for measuring electronic communication networks in virtual care teams using electronic health records (EHR) access-log data. Survey research method was used. The finding of this study among others showed that electronic health records were preserved in virtual spaces. The conclusion of this study indicated that the use of virtual spaces in preserving health records is effective.

Dzifa, Reindolf and Prosper (2015) conducted a study titled analysis of records management and organizational performance. Records management guideline is instrumental in the efficient and effective control of the organisational records. The study sought to find out the relevance of effective records management, problems associated with records and information management, as well as the effect of proper records management on the performance of the organization. Survey research method was used in this study. The finding of this study among others revealed that in order to maintained records, such records were stored in the files. It was concluded that the use of guidelines and policies led to sound records management.

Abdullahi, Abiola and Abdulwahab (2016) carried out a research titled an assessment of records management practice in selected Local Government Councils in Ogun State, Nigeria. Records are important resources needed for the management of any organization. The objectives of this study among others were to ascertain the classes of records created, maintained, and used by the selected local government councils, as well as their formats; the storage facilities and level of security are provided for these records. Survey research method was used in carrying out this study. The finding of this study among others revealed that records were stored on shelves in order to maintain them. It was concluded that records management practice in selected Local Government Councils in Ogun State, Nigeria, was not effectively carried out.

Nwaomah (2015) carried out a study on political factors' influence on students' records management effectiveness in the Nigerian university system. Students' records are critical in achieving university's goals and objectives. The study focused on students' record management effectiveness as well as the political factors that influenced the effectiveness of students' records management in the Federal, State and Private Universities in Nigeria. Survey research design was employed for this study. The findings of this study included, restriction of unauthorized access to the records, protection of the records from disasters, etc. It was concluded that political factors had influence on the effective management of students' records in the Nigerian universities.

Studies conducted reporting the procedures through which records are accessed in the society
Scholars conducted studies that revealed the procedures through which records are accessed in the society. The following are some of these studies:

Anil (2017) conducted a study on awareness and use of online public access catalogue services among the students of Department of English, Mathematics and Commerce of Kurukshetra University, Kurukshetra, Haryana, India. Libraries play a major role in institutions of learning. They provide information resources in both print and non-print formats to its user. These are accessed through the use of catalogues. The objectives of this study were to find out the awareness, frequency of use, pattern of search of information resources, by the students using online public access catalogue among others. Descriptive survey research design was used in this study. From this study, it was discovered among others that records were accessed through the use of their subjects. It was concluded that online public access catalogue was an important tool that facilitated access to the documents kept in the libraries.

Shehu (2015) studied management of students' academic records in Federal Universities in North-West Nigeria: Implication for access and utilization. Records are sources of information needed for the management of the university. The objectives of this study sought to find out the types of students' academic records generated, the procedures through which students' academic records are accessed and utilized etc. Survey research design was used in this study. It was found out among others that records were accessed through the use of subject, which was used as a label on the storage devices. It was concluded that management of students' academic records in Federal Universities in North-West Nigeria, was fairly carried out.

Hamisu (2017) Studied the effects of webquestonline learning strategies on the written English of students of senior secondary schools in Kaduna State, Nigeria. The objectives of this study sought to determine the difference between the written English mean performance score of the students exposed to WebQuest online learning strategies and those not exposed to the treatment, the difference between the narrative essay mean performance score of those exposed to WebQuest online learning strategies and those not exposed to the treatment. Quasi-experimental research design was used in this study. It was found out among others that records in the Internet were accessed through uniform resource locator. It was concluded that webquestonline learning strategies were effective on the written English of students of senior secondary schools in Kaduna State, Nigeria.

Unobe (2015) carried out a research on availability and utilization of on-line information sources and services in Federal Universities' medical libraries in North-West Geo-political Zone of Nigeria. The objectives of this study sought to find out the online information sources and services available for users, ascertain the use and the extent to which online information sources and services utilize as well as identify the level of satisfaction to users of the online information sources and services in Federal Universities Medical Libraries in North West Zone of Nigeria. Survey research design was used in this study. The finding of this study among others revealed that records in the online environment were accessed through electronic mail. It was concluded that despite the availability of online information sources and services in libraries, accessibility and effective utilization of on-line information sources and services in Federal Universities' medical libraries in North-West Geo-political Zone of Nigeria, were not up to the expectation.

A study carried out by Luqman and Jeremiah (2017) titled awareness, access and utilization of library catalogue by undergraduate students of the College of Law, Osun State University Osogbo, Osun State, Nigeria. The objectives of this study sought to find out the influence of awareness programme on utilization of the library catalogue, ascertain the influence of access point on utilization of the library catalogue as well as influence of awareness and access on utilization of library catalogue by undergraduate students of the College of Law, Osun State University, Osogbo, Osun State, Nigeria. Survey research design was used in this study. It was found out among others that records stored in a database were accessed through the use of

the name of the author. It was concluded that the awareness programme and access points contribute immensely to the utilization of library catalogue.

Studies conducted reporting the purposes of utilisation of records in the society
Studies were conducted revealing the purposes of utilisation of records in the society by different scholars. The following are some of these studies:

Molepo and Cloete (2017) conducted a study on proposal for improving records management practices of traditional institutions in Ga Molepo, South Africa. The way in which an institution treats its records is crucial for its survival in a rapidly changing society. The purpose of this study was to investigate the records management practices and challenges faced by traditional institutions of leadership and governance in Ga Molepo, Limpopo, South Africa. Cross-sectional survey was used in this study. It was reported among others that records were needed for evidential purpose. It was concluded that records management was a neglected areas in traditional institutions. Due to lack of awareness and the absence of guidelines and standards, there were no real modern records management practices in such institutions.

Karl, Elaine, Richard, Alex, Owen, Christopher, Jane, Jose, Patrick, Chris and Geoff (2017) studied process mining routinely collected electronic health records to define real-life clinical pathways during chemotherapy. There is growing interest in the use of routinely collected electronic health records to enhance service delivery and facilitate clinical research. It should be possible to detect and measure patterns of care and use the data to monitor improvements but there are methodological and data quality challenges. This study focused on establishing reproducible methods of process-mining electronic health records, using the outputs derived to define and quantify patient pathways during chemotherapy, and gathering robust data which is structured to be able to inform a cost-effectiveness decision model of home monitoring of neutropenic status during chemotherapy. Survey research method was used. The authors discovered among others that the records collected in the course of routine care were used for investigation of the current clinical practice. It was concluded that the use of routinely collected patient records led to the production of accurate models of the real-life experiences of chemotherapy patients and generation of clinically useful information.

Duan, Zheng, Zhou, Wang, Cao, Cao, Cui, He and Xiao (2018) conducted a study on evaluation of a school entry immunization record check strategy in 4 counties of Ningxia and Hubei provinces, China. China has a national requirement that children's vaccination status is to be checked upon entry to kindergarten and school. Most provinces have Immunization Information Systems (IIS) that contain and manage vaccination records of children served by immunization clinics. This study focused on determining the effect of their school entry immunization record checking strategy (SECS) on vaccination coverage and rate of catch-up for selected vaccines. Survey research method was used. The finding among others indicated that records were used for identification of incompletely vaccinated children. This shows that records can be used for detection purpose to identify the fact about people, places, actions among others. It was concluded that school entry immunization record checking strategy was important in knowing the vaccination coverage and rate of catch-up for selected vaccines.

Jiyeon and Jooyung (2016) studied the effects of keeping financial records on financial soundness of households. Financial records are important sources of information about household's income and expenses. The objectives of this study were to find the levels of keeping financial records among Korean households, and the effect of keeping financial records on financial soundness of households. Survey research method was used. From the study, the result among others revealed that household financial records such as account books were used for the facilitation of meeting financial target. These records were used by the Korean households both men and women in order to achieve sound financial management. It was concluded that keeping financial records helped in achieving financial soundness of households.

Olufemi and Johnson (2019) investigated the impact of record keeping on the performance of selected small and medium enterprises in Lagos Metropolis. The importance of Small and Medium Enterprises (SMEs) in many economies cannot be over emphasized as they play vital roles in the economy of both developed and developing countries such as employment generation and poverty reduction among others. The objectives of this study were to analyse the extent to which accounting information was being used to measure financial performance of SMEs, analyse the degree to which accounting information was being adopted in measuring financial performance by SMEs in Nigeria, describe the restraint of SMEs to implementing accounting system, among others. Survey research method was used. At the end of this research, they reported among others that receipts etc., were used in accounting of financial matters. It was concluded that the major benefits of keeping proper records was to know the performance of the business and that record keeping was key to the success of the business.

Here are studies conducted revealing the extent at which records managed satisfied the need of the users in the society

Studies were conducted revealing the extent at which the records managed satisfied the users in the society. The following are some of these studies:

Valerio, Neil, Ronan, John, Sharmila, John, Austin, Tom and Mark (2019) studied use of laparoscopic videos amongst surgical trainees in the United Kingdom. Electronic records in the forms of videos are important teaching aids used during instruction. They can be used in teaching large population of the learners. It can be used in the physical or virtual space in order to disseminate information to the learners irrespective of the place, time, among others. This study focused on assessing the current use of laparoscopic videos amongst surgical trainees in the United Kingdom. Survey research method was used in carrying out this study. It was found out among others that surgical trainees were highly satisfied with the use of videos in learning. It was concluded that surgical trainees considered videos as useful tools in laparoscopic surgery training. They required laparoscopic videos to have supplementary educational content such as English commentary, the use of snapshots and diagrams.

Andraz, Gregor and Katja (2016) studied the effect of email invitation elements on response rate in a web survey within an online community. Electronic mail is an important tool that can be used to invite people to a particular place. This study focused on finding whether making authority, plea for help, and sense of community salient in email invitations determines the response of the participants. Survey research method was used in this study. The finding of this study among others indicated that electronic mail invitation was highly useful. This is because plea for help in an email invitation increases the response rate. It was concluded that email invitation had significant relationship with response rate in a web survey within an online community.

Alinane, Augustine, Chimwaza and Adamson (2015) investigated invitation cards during pregnancy enhance male partner involvement in prevention of mother to child transmission (PMTCT) of human immunodeficiency virus (HIV) in Blantyre, Malawi: A randomized controlled open label trial. Invitation card is an important tool of calling people to a particular place. The purpose of this study was to evaluate the efficacy of an invitation card to the male partners as a strategy for male involvement in PMTCT services by comparing the proportion of pregnant women that were accompanied by their partners between the intervention and the non-intervention study groups. An experimental method was used in this study.It was revealed among others that invitation card significantly increased the proportion of women who were accompanied by their male partners for the PMTCT services. The card is a feasible strategy for male involvement in prevention of mother to child transmission, PMTCT. This implies that the users of invitation card were highly satisfied with it as it increased the presence of women who were accompanied by their male partners for the PMTCT services. It was concluded that invitation card played an important role in male involvement in prevention of mother to child transmission services.

Krishnan and Frank (2017) investigated web-based visual decision support system (WVDSS) for letter shop. Web-based Visual Decision Support System (WVDSS) is an important tool that allows organization to successfully turn around the scheduling and capacity planning function along with extending the success to customer service, and warehouse operations. This study focused on implementation of a web based decision support system in a direct mail (letter shop).Survey research method was used in this study. It was revealed among others that the use of letter sent as message directly addressed to a particular person or organization through web-based platform, was highly important in accessing the information it contains. It was concluded that web based decision support system in a direct mail (letter shop) was effective.

Gatera, Uwimana, Manzi, Ngabo, Nwaigwe, Gessner and Moïsi (2016) conducted a study titled use of administrative records to assess pneumococcal conjugate vaccine impact on pediatric meningitis and pneumonia hospitalizations in Rwanda. This study focused on retrospective use of routinely collected data to estimate pneumococcal conjugate vaccine impact in Rwanda. Document analysis was used in this study, where data was collected from admission registers at five district hospitals on children aged less than 5 years admitted for suspected meningitis and pneumonia. Clinical and laboratory data on meningitis from sentinel surveillance at the national reference hospital in Kigali was acquired. It was found out among others that admission registers, contributed immensely in discovering the severe pneumonia and suspected meningitis hospitalization rates. It was concluded that the use of administrative records was significant in assessing the impact of pneumococcal conjugate vaccine on pediatric meningitis and pneumonia hospitalizations in Rwanda.

Based on the summary of some of the empirical studies reviewed in this study, it is clear that they were conducted in different organisations such as universities, hospitals, secondary schools, local government areas, among others. The objectives of these studies included those that sought to find out the types of records generated, the procedures through which such records were maintained, reasons for the utilisation of the records generated, among others. However, the summary of the empirical studies reviewed in this study indicates that such studies were conducted in different organisations which are known. This study will help the future researchers in records management to identify the studies conducted on records management global and their perspectives in order to find out gaps needed for future researches. Hence, the purpose of this study.

Conclusion

Base on the presentation of the studies summarized in this study, it is concluded that scholars conducted studies on records management from many organisations which included universities, hospitals, secondary schools, local government areas etc. This indicates the scope of some of the studies conducted in records management. The study will help to identify the gap in the field for future researchers for conducting studies as well as contributing in emerging educational innovations, creativity and research for transformation of teaching and learning in the new global education realities.

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Revolutionizing Library Operations with AI: Enhancing Efficiency and User Experience in Academic libraries in Nigeria

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Abstract
Libraries have long been thought to be the foundation of knowledge, providing access to a broad diversity of books, information resources. However, in today's digital age, the emergence of novel technology is transforming old techniques of library management. Library management software has emerged as a game changer, transforming library operations and improving overall user experience. The realm of library management software in this trending topic, covering its benefits, features, and impact on modern libraries with AI technology.

Keyword: Artificial Intelligence, Revolutionizing, Library Operations, User Experience,

Introduction

Artificial Intelligence (AI) has emerged as a transformative force across various industries, and libraries are no exception. In recent years, libraries have embraced AI technologies to streamline operations, improve user experience, and optimize resource management. From automating routine tasks to enhancing search capabilities and personalizing user interactions, AI has revolutionized the way libraries function. In this article, we will explore the significant impact of AI in library operations and the benefits it brings to both librarians and library patrons.

The four main infrastructures in higher education institutions are laboratories, equipment, teachers' classrooms, and libraries with a wide variety of information resources to assist teaching, learning, and research projects. (Tiemo & Ateboh, 2016). Libraries serve as the hub of an institution of learning and a place where information is made available to all clients, regardless of their ages, political and ethical perspectives, religion, sex, etc. Moving information resources from book collections to audiotape collections, video collections, databases, digitized information resources, automating libraries, and now implementing artificial intelligence in library operations. (Vijayakumar & Vijan, 2011).

This implies that one of the motives of adopting AI technologies in university libraries is to satisfy user needs. According to Sivarajah in 1980, utilizing AI in academic libraries enables improved dataset analysis, particularly for huge datasets that are used for analysis across various datasets. Furthermore, it aids in the abolition of tiresome and repeated task. This has the implication that integrating AI into library operations enables libraries to acquire skills that go beyond the human mind. Libraries, notably university libraries in poor nations like Nigeria, have struggled to accept digital technology and exhibit reluctance to change in the use of technologies across the board (Wheatley & Hervieux, 2019).

The origin of Artificial Intelligence (AI) can be traced to John McCarthy's research in 1955, with the assumption that every aspect of learning and other forms of intelligence can be stimulated through the use of a machine (Wang, 2018). Scholars have defined the concept of Artificial Intelligence (AI). According to Benhamou and Janin (2018), AI involves a collection of technologies that enable machines to act with a very high level of intelligence similar to humans. Merriam-Webster English Dictionary (2018) stated that artificial intelligence is "a part of computer science that deals with giving ability to the machines to look as if they have natural human intelligence." These human capabilities of AI are improved through learning from experience and adaption over time.

As an aspect of computer science, AI comprises an expert system, fuzzy logic, artificial neural network, evolutionary algorithms, case-based reasoning, image processing, natural language processing, speech recognition, and robotic (Tella, et al., 2012). According to Tiemo (2017) described AI as a cluster of technologies, and various computing science approaches to make flexible rational decisions that align with unpredictable environmental conditions. However, this tread can be linked to process automation, the Internet of things, data processing, tangible robotic, conversational interactions and decision support.

Sivarajah et al. (2017) It has been observed that employing AI in academic libraries enables improved dataset analysis, particularly for huge datasets utilized for analysis across many datasets. It also facilitates the removal of tiresome and repeated chores. The implication of this is that integrating AI into library

operations enables libraries to develop powers that go beyond the limits of the human intellect. Libraries, notably university libraries in poor nations like Nigeria, have struggled to accept digital technology and exhibit resistance to change in the use of technologies across a range of library activities (Wheatley & Hervieux, 2019).

Similar to this, Asefeh and Asemi (2018) provide a list of numerous applications for AI technologies that can be utilized to enhance library services, such as circulation services, book shelving, cataloguing and classifying library materials, and more. Aside from assigning metadata, AI technology can also help with non-textual searches. Fernandez (2016) lists seven potential applications for AI in library operations, including large data analysis, metadata creation, search item translation, and search item integration across information resources.

According to Divayana et al. (2015), among the benefits of AI for library operations include its capacity to carry out tasks effectively. When using AI, libraries can complete tasks far more quickly than they could with human labor. AI is useful for uncovering previously undiscovered ideas, like space, and for minimizing human mistake in library operations. According to Liu (2011), academic libraries can build artificial intelligence by utilizing expert systems in the reference section to suggest to users the library materials that will best address their inquiries. Mogali (2015)

The following are advantages of AI

Automating Routine Tasks

One of the most significant advantages of AI in library operations is its ability to automate routine tasks. Librarians spend a significant amount of time on administrative duties, such as cataloging, data entry, and circulation management. AI-powered systems can take over these repetitive tasks, freeing up librarians to focus on more value-added activities. For example, AI can automatically categorize and tag books, suggest metadata, and manage circulation processes, resulting in increased efficiency and reduced human error.

Enhancing Search Capabilities

AI technologies have vastly improved the search capabilities of library systems, enabling users to find relevant information quickly and easily. Natural Language Processing (NLP) algorithms can analyze user queries and provide accurate search results, even for complex or ambiguous queries. AI-powered search engines can also employ machine learning algorithms to understand user preferences, recommend related materials, and personalize search results based on individual interests and reading habits. These advancements enhance the user experience by making library resources more accessible and tailored to each user's needs.

Data Analytics and Predictive Insights

AI enables libraries to leverage the vast amount of data they generate, providing valuable insights for decision-making and resource optimization. By analyzing user behavior, borrowing patterns, and resource usage, AI systems can generate predictive insights, helping librarians make informed decisions about collection development, resource allocation, and service improvements. For example, AI can identify popular genres or authors, detect emerging trends, and anticipate demand for specific materials, enabling libraries to proactively meet user needs and improve resource allocation.

Virtual Assistants

AI-powered virtual assistants are transforming user interactions in libraries. These intelligent systems can provide instant assistance, answer frequently asked questions, and guide users through library services and resources. Virtual assistants can be available 24/7, ensuring that users receive support even outside of regular library hours. By automating routine inquiries, librarians can focus on more complex user requests and provide personalized assistance when required. These virtual assistants enhance self-service capabilities, improve user satisfaction, and create a more efficient and user-friendly library experience.

Preservation and Digitization

AI technologies play a crucial role in preserving and digitizing library collections. Optical Character Recognition (OCR) combined with AI algorithms can accurately convert printed materials into searchable digital text, facilitating wider access to historical and rare documents. AI can also assist in the identification and restoration of damaged or deteriorated texts, enhancing preservation efforts. Furthermore, AI-powered image recognition and tagging systems can automate the digitization process, making it more efficient and cost-effective.

Challenges of Adopting AI in academic libraries

Academic libraries in Nigeria have not yet adopted and used AI, in spite of the potential that it holds for libraries. Given that there has been relatively little study linking artificial intelligence (AI) to librarianship, this may be because there is a low degree of awareness and adoption of AI's importance in libraries. In contrast to other industries, library and information science has not seen an exponential rise in the usage of

AI. The difficulties that libraries are currently facing put their conventional function at real jeopardy. Currently, Libraries are now struggling with operational inefficiency, technological disadvantage, difficulty in maintaining current audiences and engaging new ones, and an inability to demonstrate value and benefits to all stakeholders.

Korinek and Stiglitz (2017) maintained that advances in AI technologies could bring about job losses or job polarization. AI adoption has the potential for a high rise in inequality due to automation. World Bank (2016) maintained that developing countries may be more hinted at the adoption of AI because it will lead to a high job loss rate. The report further states that 69% of job loss will be experienced in India through AI adoption; 72% in Thailand; 77% in China and 85% in Ethiopia. All these studies indicate that AI can lead to job losses and the potential for gross job destruction. International Labor Organization (2018) also stressed that with the current trend in technological change based on the adoption of artificial intelligence in different organizations that include libraries, AI adoption has created widespread fear of job losses and a high rise in inequality.

Other challenges posed by the adoption of AI in academic libraries include:

1. **Financial uncertainty:**

When government funds are shrinking and political or economic changes are underway, cultural institutions are often the first to suffer cuts. In many ways, the struggle for institutional or government funding is much like the chicken and egg problem. Libraries are expected to show value for money and demonstrate cost effective practices, but they can't do that without integrating new technologies to upgrade their physical spaces, offer new services, and improve the user experience for today's patrons – all of which requires additional funding (Tella, 2020). Thus, today's libraries often find themselves in a financial limbo - unable to show value without additional funding.

2. **Emerging skill gaps:**

The digitalization of information has impacted both library operations and systems. Today, the digital realm is just as important as the physical one, making it essential for libraries to develop new skills not only to stay competent, but to better serve patrons in the digital age. These services require new competencies, such as: higher levels of digital fluency, the ability to provide the most relevant resources at a much faster pace, and supporting hands-on creative activities to maximize a patron's learning experiences.

3. **Competing with today's alternative sources of information:**

According to Horizon report (2017) a survey found that 68% of college students start their research with Google and Wikipedia. These free providers of information, along with the emerging open access trend in scholarly publication methods, are daring libraries to rethink their distribution of high-quality information in to the context of maintaining a vital presence in the new information landscape.

4. **Attracting new and more diverse audiences:**

For libraries to appeal to their existing audiences and engage new ones, they need to offer services that meet the expectations of the new generation of hyper-connected patrons. This includes rethinking the library's traditional physical space, moving from a quiet place filled with bookshelves for reflective reading and writing to something entirely different. For the library to remain relevant, it needs to become a vibrant space for collaboration and innovative activities, alongside a quiet space for reflective studying. Conclusion The adoption of AI technology in academic libraries is setting a new level of efficient and effective library services delivery. Also, the adoption affords libraries the opportunity to render 10 improved and dynamic services to library patrons. AI is being used to guide and support library activities, and at the same time user-friendly, particularly in information search are among the benefits derived from the adoption AI in libraries. However, despite the benefits associated with the adoption of AI in libraries, some challenges such as financial uncertainty, emerging skill gaps, job loss, lack of adequate infrastructure and erratic power supply still hinder the smooth adoption of AI in many academic libraries in Africa.

Conclusion

AI has become a game-changer in the world of libraries, transforming traditional operations and enhancing user experiences. By automating routine tasks, improving search capabilities, providing predictive insights, offering virtual assistance, and facilitating digitization efforts, AI technologies optimize library operations, increase efficiency, and empower librarians to deliver enhanced services. As AI continues to advance, libraries and information centers will undoubtedly explore further innovative applications.

Recommendations

Some of the recommendations suggested include:

1. Government and library management must come together to proffer the way forward for academic libraries in terms of meeting up with the latest standard of the use of AI in libraries

2. Library staff should be exposed to training and retraining in the use of artificial intelligence in delivering of libraries' services in order to achieve improved operational efficiency in libraries where the technology is to be adopted or already adopted.
3. There must be proper policy formulation and implementation prior to, during and after the adoption of AI in African academic libraries.
4. Higher institutions libraries should intensify efforts in adopting artificial intelligence in the delivery of libraries' services for libraries users to gain very high level satisfaction.
5. Government and concerned agencies should provide adequate artificial intelligent hardware and software to aid in the delivery of libraries' services to users.

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PUBLIC SPENDING AND DEVELOPING HUMAN CAPITAL IN KADUNA STATE:

AN EMPIRICAL APPROACH

BY

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Abstract
Public spending on education and health is one of the significant factors that propel human capital toward development. This study explores the response of developing human capital to public spending in Kaduna state, Nigeria. Specifically, the study analyzed the direction of causality between public spending and developing human capital in the state. Using time series data a preliminary test of stationarity and co-integration was conducted by the authors. The Pairwise Granger causality test was then employed to determine the association between government spending and developing human capital. The finding shows uni-directional causality from recurrent / capital expenditure on education and health (REE/CEE) to developing human capital (HL). No causality was found between recurrent / capital expenditure on health (REH/CEH) and developing human capital (HL). Because of these findings, the fundamental decision deduced from the work is that increased government spending on education and health is the most effective route to developing human capital in Kaduna state. Thus, the measure of government spending capital and recurrent expenditure on education and health considered in this study are essential variables in describing human capital development in the state.

Keywords: Public Spending, Developing Human Capital, Kaduna State, Nigeria.

Introduction

Developing human capital has been proven by a considerable and expanding body of literature to be a leading cause of poverty reduction and economic prosperity. Increments in public spending on human capital development can yield large benefits for education, household health, and productivity. Apart from a direct impact on production, developing human capital influences prosperity indirectly through the adoption of preventive health measures and reduction in rates of fertility (Collin and Weil 2020). Given the relationship between developing human capital and these well-being outcomes, is government expenditure able to enhance the developmental prospects of a large number of its citizens? There are few studies that investigate the relationship between government spending and human capital development outputs or outcomes at a state-specific level. This is amazing given human capital's relevance for economic growth and distribution.

Providing education and health services to people is one of the major ways of improving human resources (Torruam and Abur 2014).The theory of human capital development emphasizes how education and good health increase the productivity and efficiency of people. Investing in education and health is essential to economic advancement and is one of the key determinants of economic performance both at the micro and macro stages. This arises from the fact that education and health are both direct components of human well-being and a form of human capital that increases an individual's capabilities Bloom and Canning (2003). Schultz (1992) argued that population quality is the decisive factor of production and emphasized the intrinsic worth of education and health investment. This paper seeks to examine thedirection of causality between government recurrent/ capital expenditure on education and health and human capital development in Kaduna State for the period 1990 – 2015.

Literature Review

Human Capital relates to the inventory of skills, knowledge, ideas, talent, personalities, attributes, and health status embodied in persons which ease their ability to execute labor to produce individual, economic, and communal value (OECD, 2012). Osekhebhen (2014) opines that human Capital is a blend of components such as health, education, experience, training, intellect, vigor, work habits, reliability, and enterprise that influence the degree of a worker's marginal product. In another dimension, Simon-Oke (2012) defined human capital as a deliberate and continual procedure of developing and growing the number of citizenries with essential knowledge, education, skill, and experience that are essential for the economic evolution of a nation. Government expenditure, otherwise known as public expenditure is government intervention in the economy to restore it back to equilibrium in the cause of market failure. The role of public expenditure in the determination of the level of income and its distribution is now well recognized. Keynesian macroeconomics provides a theoretical basis for recent developments in public expenditure programs in developed countries. Public expenditure can be used as a lever to raise aggregate demand and thereby get the economy out of recession. On the other hand, through variation in public expenditure, aggregate demand can be managed to check inflation in the economy. Public expenditure can also be used to improve income distribution, direct the allocation of resources in the desired lines, and influence the composition of national products. In developing countries also, the role of public expenditure is highly significant.As opined by Gaurav (2012), in developing countries, the variation in public expenditure is not only to ensure economic stability but also to generate and accelerate economic growth and promote employment opportunities. The public expenditure policy in developing countries also plays a useful role in alleviating the mass poverty existing in them and to reduce inequalities in income distribution.

The role of public expenditure in economic development lies in increasing the growth rate of the economy, providing more employment opportunities, raising incomes and standard of living, reducing inequalities of income and wealth, and encouraging private initiative and enterprise, thus bringing about regional balance in the economy (Jhingan 2007). Jhingan further explained that public expenditure on social overheads like education, public health, cheap housing, etc makes people healthier and more efficient. As such expenditure on education, public health, and medical facilities helps in human capital formation. As a result, the earning power of the working population is enhanced. As economic development proceeds rapidly through rising government spending, the barriers to upward mobility are removed. Occupations expand and spread, providing more jobs to the people, and with the acquisition of skills, the level of wages tends to rise within the economy. Moreover, when the state spends on the creation of economic and social overheads like power, transport, health, education, etc, they pave the way for the establishment and expansion of the private sector.

According to Mayr (2010), Education plays a fundamental role in developing human capital. In fact, since childhood, individuals have to attend school and that is, as known, one of the most important means by which a child can gain knowledge and develop his own personality. But education, or rather, the education system plays also a key role in a country's economic growth. If the system is efficient, it will produce skilled individuals and, at a higher level of education, it will produce highly qualified workers that will improve a country's competitiveness and outcome. Similarly, Ludger Wössman (2002) in Mayr (2010) noted that the quality of a country's stock of human capital is decisive for the country's long run development". Education is thus strongly linked also with some macroeconomic variables, like the unemployment rate, labor force participation rate, and earnings. In a few words, education not only influences people's lives but the country's economic situation. Thus, a good education system goes along with a long-term growth strategy. It is important that a country plans an efficient schooling policy, ensuring, at least, a high-quality basic education. There are also additional benefits from spending on education: in fact, it increases human capacities and the possibility that people can live the kind of life they value the most.In assessing human capital development, a World Health Organisation (1999) report as cited in Isola and Alani (2012) shows that there is proven evidence that adult health depends on child health and

itself directly influences labor productivity. In other words, improvements in child health, for instance, which implies a reduction in child mortality rates, translate into improvements in adult health in subsequent years. Arising from this, several options are noticeable. First, better adult health implies a reduction in middle-aged mortality and a reduction in premature retirement. This improves the demographic transition by reducing the dependency ratio in the economy with ultimate improvements in per capita income. Besides, improved adult health means a longer period of working life. This means higher savings with improvements in the savings-investment ratio. The improved labor productivity emanating from this contributes positively to per capita income. Going by this assertion implies that human capital development encompasses both good education and good health.

This study is hinged on the New Growth theory or Endogenous Growth theory, which serves as an inspiration for the study. The theory advocates innovation through spending on human resource to produce new ideas or knowledge to solve the problems which a nation face. The model was developed by Arrow (1960), Romer (1990), and Lucas (1988) following the limitations of the Solow – Swan neoclassical model which addresses exogenous variables in the growth process. The neoclassical economists explained the long–run growth rate of input based on the rate of growth of the population and the pace of technological advancement that is independent of the saving rate.The Endogenous model amplifies the long–run growth rate of an economy due to investment in research technology. This sector arouses human capital along with the existing stock of knowledge to create ideas or new knowledge. This new knowledge (technology) is assumed as a non–rival input or public good, which can be used by other firms to increase the productivity of other sectors, hence leading to economic growth. Endogenous Growth theory explains public policy for spending in producing Human Capital and on research and development of new knowledge. This increases the rate of collection of both physical and human capital and thus the long–run growth rate of the economy. This paper seeks to investigate public policy for making investments in developing Human Capital and creating new ideas through research and development. This paper is peculiar because it enhances the current understanding of the existing body of knowledge between public spending and developing humancapitalin Kaduna State.Literature on the nexus between publicspending and human capital development is filled with inconclusive findings. Some studies established no relationship between an increase in public expenditure and human resource productivity while some studies revealed a positive and notable association between developing human capital and Human Resource Investment.Brown and Hunter (2004) in their study Democracy and human capital formation; education spending in Latin America 1980 to 1997 examined the relationship between democratic representation and spending on education. The authors assessed the impact that democracy has on the distribution of resources between different levels of schooling and on total spending on education. Specifically, they test whether democratic governments allocate a greater share of resources to primary education the level that benefits the largest segment of the electorate and that is most critical for human capital formation in developing countries. Utilizing time-series cross-sectional analysis, the authors find that democracies devote a higher percentage of their educational resources to primary education and that they maintain higher absolute spending levels on education in the aggregate, thereby enhancing the prospects of human capital formation.

Kousar, Ahmed, et al. (2023)in their study "is government spending in Education and health sector necessary for human capital development?" examined the impact of current health expenditure, domestic government health expenditure, government education expenditure, social protection, population growth and foreign direct investment (FDI) on human capital formation in the context of Pakistan. Using skill and health to measure human capita, the study utilized annual data for the period 1990 -2020 which was extracted from world development indicators WDI) and World Bank. Auto-regressive distributed lag (ARDL) bound test was adopted to examine long-run co-integration among defined variables. Findings indicated that current health expenditure (CHE), domestic government health expenditure (DGHE), government education expenditures (GEE), foreign direct investment (FDI), and social protection program (SP) have a positive and significant association with human capital in term of primary, secondary, and

tertiary education attainment and life expectancy at birth. Moreover, domestic government spending on health and education, and social protection program significantly decreases child mortality in Pakistan.

Torruam and Abur (2014) investigated the impact of public expenditure on human capital development as a strategy for economic growth in Nigeria for the period 1977 to 2012. Augmented Dickey-Fuller (ADF) test and Phillip-Perron (PP) test were utilized for the stationarity properties of the data which integrated at first differences. The Johansen approach of co-integration was applied to test for the long-run relationship among the variables. Findings from the Granger causality suggest that there is bidirectional causality running from economic growth to human capital development and from total expenditure on education to total expenditure on health in Nigeria. This implies that if funds channeled to the education and health sectors are properly managed and utilized efficiently it would improve the educational and health sectors. In a similar study and in order to capture the efficiency of government expenditure on human capital development in Nigeria that include government expenditure on information and communication technology as a proxy on spending for human capital development while excluding spending on health, Ehimare, Ogaga-Oghene, et al. (2014) uses Data Envelopment Analysis involving Input Oriented Variable Return to Scale. The findings of the study reveal that there has been a significant reduction in the efficiency of government expenditure since 1990 up till 2011 which has been on decreasing level. This result therefore could be evidenced by the poor quality and output experienced in the Nigerian education sector. The study, therefore, recommended that effort should be made to encourage and promote self-dedication, commitment, and service delivery in order to improve the quality of educational output in Nigeria in terms of quality of human capital and capacity building.

Focusing on the long-run relationship between government expenditure in education and health and human capital development in Nigeria, Okafor, Ogbonna, et al. (2017) examined the effect of government expenditure on human capital development in Nigeria. The result of the VAR model showed that human capital development HDI is significant in the current year (- 1) but tends to converge insignificantly in the previous years. On the other hand, the value of the joint significance indicated that the current values of education EDU and health HTH are the most influencing factors that determine the current values of HDI (-1). This is economically evidenced that what influences human capital development in Nigeria is the nature, pattern, and level of government expenditure in education and health. Studying the relationship between human capital development and government expenditure between 1990 to 2014, Innocent (2017) adopted autoregressive distributed lag (ARDL) and impulse response function for estimation. The bound test was used to determine the long-run relationship between human capital development HDI and government expenditure GOVEXP. The result demonstrated that both in the long and short-run, government spending has remained positive but to a very large extent insignificant to human capital development in Nigeria. The study suggests that government spending should largely be focused on human development through specialized high technology-driven schools and efficient and effective health facilities.

Omodero (2019) assessed the impact of government general spending on human development in Nigeria from 2003 to 2017. The purpose was to determine the response of the human development index HDI to recurrent and capital government expenditure. Utilizing a multiple linear regression model to link the study variables and the ordinary least squares method to analyze the model, findings indicated that government capital expenditure and inflation have an insignificant negative influence on HDI. While government recurrent expenditure has a strong and insignificant positive impact on HDI. Based on the outcome, the study suggests that resources on recurrent expenses should be reduced while more money should be invested in capital projects for human capital development in Nigeria. In his study,Erasmus (2021) empirically investigated the relationship between public expenditure and human capital development in Nigeria from 1960 to 2019. Using OLS regression statistical tool, findings showed that public education expenditure had a significant impact on the human development index. Evidence also revealed that public health expenditure had a positive significant impact on the human development index. In addition, the

study showed that joint health and education expenditures have a positive but insignificant impact on the human development index in Nigeria. Following these findings, the study concludes that public expenditure through investment in education and the health sector influence human capital development in Nigeria.

It is because of the above differences in empirical findings that this investigation is committed toexamining the direction of causality between government recurrent/ capital expenditure on education and health and human capital development in Kaduna State.

Theoretical Framework and Model Specification

The Endogenous Growth models formulated by Mankiw, Romer et al. (1992), Lucas1988; and Rebello 1991, is the theoretical underpinning for the study. In contrast with the simplest version of the Solow model, the theory maintained that the proportion of capital to output will be invariant, Offering a stimulating option to the diminishing returns and absence of any prolonged effect on growth. The center of many Endogenous growth theories is reflected in the equation;

$Y = AK$ .....(1)

Where;

A represents technological factors and

K represents human and physical assets.

Y represents the total output

Human or capital investment by an individual or firm results in an increase in productivenessthat surmounts personal gain. This scheme allows the possibility that an increment in human and physical capital investment rate could bring about prolonged growth if solid international economies were rendered by investment itself such that α in the Solow model becomes one (Pack 1994).

The Model

$Y = AK$ ---------- (2)

Where;

Y is Real Output

A is total factor productiveness i.e. growth in output not described by capital and labor inputs,

K represents both human and physical assets.

Romer (1986), presumes the creation of knowledge as a consequence of investment and inserts it in the production function of the form;

$Y = f(R_t, K_t, L_t)_i$----------(3)

Where;

Y is the collection of output

A represents knowledge from Research and development R (education);

K_i and L_i are the capital and labor stock of firm i respectively.

According to Romer, new knowledge is the idealcause of the long–run increase which is driven by spending on research technology (education). Since data on research and development expenditure is scarce in Kaduna State, equation 3 will be modified following Akinwale (2018), in the form;

$Y = f(K^{\alpha} H^{\beta} AL^{1-\alpha-\beta})$ ----------(4)

Where;

Y is the aggregate output

A is the total factor productiveness

K, H, and L are physical capital, human capital, and labor force respectively.

Transforming the model and taking the natural logarithm, equation 5 emerges;

$\ln Y = f(\alpha \ \ln K \ \beta \ \ln HA \ (1 - \alpha - \beta) \ln LO)$ ----------(5)

Thus, following Romer and Weil's (1992) augmented version of the Solow Swan model, taking labor force to represent effective labor, GDP per capita (GDPP) for output (Y), Gross fixed capital formation (GFCF) for physical capital and government recurrentinvestment on education (EDU) and health (HEA) which are proxies for human capital, the new model becomes:

$\ln GDPP = f(\ln EDU_t, \ln HEA_t, \ln GFCF_t, \ln LO_t)$ ---------- (6)

Where;

$GDPP_t$= GDP per capita (current Local Currency Unit).

EDU_t= Government recurrent investment in education

HEA_t= Government recurrent investment in health

$GCFC_t$= Gross fixed capital formation (a proxy for physical capital).

LO_t= Labour force.

ln = natural logarithm.

Converting equation 5 to a probabilistic mathematical form by adding the error term, we obtain

$\ln GDPP = f(\ln EDU_t, \ln HEA_t, \ln GFCF_t, \ln LO_t) + \varepsilon_t$ 7

In achieving the objective of this study which is the direction of causality between government recurrent / capital expenditure on education and health and human capital development in Kaduna State the Pairwise Granger Causality test is paramount. The usefulness of this approach is also given due recognition by Yohannes (1994). The causality commonly used in the literature is that of Granger (1969), thus, a variable X_t is said to Granger-cause Y_t if Y_t can be predicted with greater accuracy by using past values of the X_t variable rather than not using such past values, all other terms remaining unchanged. Intuitively, the standard Granger (1969) causality test examines whether past changes in one variable X help to explain current changes in another variable Y, over and above the explanation provided by past changes in Y. If otherwise, then one concludes that X does not granger cause Y. To determine whether causality runs in the other direction, that is, from Y to X, one simply repeats the experiment, but with X and Y interchanged. The Granger causality test deals with the estimation of the regression of the following models:

$$Y_t = \sum_{i=1}^{p} \alpha_i X_{t-i} + \sum_{j-1}^{p} \beta_j Y_{t-j} + \varepsilon_{1t} \text{ ---------- 8}$$

$$X_t = \sum_{i=1}^{p} \delta X_{t-1} + \sum_{j-t}^{p} \theta_j Y_{t-j} + \varepsilon_{2t} \text{ ---------- 9}$$

In this study, Y_t and X_t will assume any of the variables as the study intends to test for the causality between the human capital development index, government recurrent and capital expenditure on both Education and health and gross domestic product. Where the error terms (ε_{1t} and ε_{2t}) are assumed to be uncorrelated. From equation (8), X is said to granger cause Y if the coefficient of the lagged values of X as a group is significantly different from zero, based on the standard F-test or Wald test. The reverse will be the case if it is significantly different from zero in equation (9). Feedback relationship or bi-directional causality exists if X_t granger causes Y_t and Y_t granger causes X_t.

Data and Sources of Data

Secondary data were considered for the study. Data such as Human Capital Development Index was worked out using a multi-dimensional approach from the Number of Kaduna State graduates (GRD) which was sourced from the National Youth Service Corps (NYSC) head office, Creative Citizens proxied by New Jobs (NJ) created which was sourced from Corporate Affairs Commission, while Healthy Citizens proxied by life expectancy in Kaduna state was sourced from Kaduna State ministry of health.Government recurrent and capital expenditure on education; Government recurrent and capital expenditure on health which were all sourced from Kaduna state Ministry of Budget and Planning.

Following Simko and Tuicu (2015) the Human Capital Development Index was compiled using a much simpler index than WEF, based only on three pillars and without further segregation. The first pillar captures education measured by the number of graduates from Kaduna State (GRD). The second pillar takes into consideration creative citizens' proxy by New Job (NJ) created by the Private sector in Kaduna State. This is because creative individuals are expected to create jobs. Finally, the third pillar is healthy citizens, proxy by life expectancy rate.The methodological creation of the index follows Principal Component Analysis as specified by (Olofin 2012). The PCA is a multivariate statistical technique used to reduce the number of variables without losing too much information in the process (Achia, Wangombe, et al. 2018). Similarly, the PCA technique also achieves this by creating a fewer number of variables which explains most of the variation in the original variables.

V Results and Discussion

Pre–Estimation Tests

The study employed econometric tools of analysis. A normality test was carried out, which was followed by unit root testing. The normality test observed the mean, median, maximum, minimum value, standard deviation, skewness, kurtosis, and Jacque–Bera statistic of each variable i.e. LNGDPP, LNEDU, LNHEA, LNLO, and LNGFCF.Secondly, Augmented Dicky–Fuller (ADF) test was carried out to discover if the data have unit roots or not. All the variables were found to be integrated of order one I (1). This is shown in table 1;

Table 1: Augmented Dickey-Fuller Unit Root Test

Variable	**At levels**		**at first difference**		**Order of integration**
	t-value	***Critical value***	***t-value***	***Critical value***	
lnGDPP	-1.321228	-2.938987	-3.300107*	-2.941145	I (1)
lnEDU	-2.169760	-2.951125	-7.774061*	-2.943427	I (1)
lnHEA	-1.547901	-2.951125	-10.10384*	-2.943427	I (1)
lnGFCF	-2.221921	-2.938987	-4.722841*	-2.941145	I (1)
lnLO	-1.256241	-2.963972	1.534039	-3.004861	------

Note: * significant at 5 percent level.

Next is the Johansen cointegration test to discover a long-run association between the variables under study. As a pre-condition Johansen cointegration test requires all variables to be non-stationary at level, but when transformed to their first difference using correlogram they then become stationary. Two variables LNEDU and LNGFCF satisfied the condition while the other two LNGDPP and LNHEA could not. Since the variables do not exhibit long–run association i.e. no cointegration among all the variables then the use of the unrestricted Vector Autoregressive (VAR) model becomes paramount.

Unrestricted Vector Autoregressive (VAR) Model

The initial task in the VAR model is to select the optimal lag length using the lag selection criteria. Lag 4 was selected because it had the lowest Akaike Information Criterion (AIC) value among other specifications in the optimal lag selection criteria and thus was adopted in the study as indicated in Table 2.

Table 2: Optimal Lag Length Criteria

	Lag	lnL	LR	FPE	AIC	SIC	HQ
0	2363.637	NA	6.72e+53	135.2935	135.4713	135.3549	
1	2226.362	235.3273	6.62e+50	128.3636	129.2523	128.6704	
2	2198.132	41.94291	3.43e+50	127.6647	129.2644	128.2169	
3	2179.090	23.93778	3.19e+50	127.4909	129.8017	128.2886	
4	2137.058	43.23289*	8.87e+49*	126.0033*	129.0251*	127.0465*	

Note: * significant at 5 percent level.

Johansen Cointegration Test: The Johansen cointegration test to find the endogeneity among the pairs of variables is presented in Table 3 from which the appropriate model to be used. VECM or VAR. is identified. Both Trace statistics and Max-eigenvalue statistics indicate no cointegrating equation at a 5 percent level and therefore the VAR model is estimated as shown in Table 3:

Table 3: Johansen Test Cointegration

Hypothesized	Eigenvalue Trace statistics	Max Eigen	No. of CE(s) statisitcs
None	0.849172	125.1558 (0.0000)	64.31487 (0.0000)
At most 1	0.630336	60.84089 (0.0003)	33.83547 (0.0036)
At most 2	0.440516	27.00543 (0.0360)	19.74518 (0.0444)
At most 3	0.192278	7.260249 (0.3181)	7.260249 (0.3181)

Granger causality on the direction between public spending and developing human capital in Kaduna State. This was accomplished to ascertain the existence and nature of a causal link between developing human capital and government expenditure. Also. to identify if the direction is unidirectional or bi-directional. The null hypothesis shall be declined if the probability value is less than 0.05 percent.

Table 4: Granger Causality Test

Pair wise Hypothesis	F-statistics	Causation
REE → HL	3.95049	Uni-directional Causality
	1.3262	
CEE → HL	4.32479**	Uni-directional Causality
	0.54459	
REH x HL	1.07314	No Causality
	0.09601	
CEH x HL	2.06454	No Causality
	0.73500	
CEE x REE	45.8510	No Causality
	32.7598	
REH x REE	21.1489	No Causality

Note: *, **, and * denote 1%, 5%, and 10% levels of significance respectively.**

It was found that a uni-directional causality running from recurrent expenditure on Education (REE) to Human capital Development (HL) exists in Kaduna state. In the same vein, uni-directional causality running from capital expenditure on education (CEE) to Human capital development (HL)exists in Kaduna State. This showed that any policies by the government to influence her recurrent and capital expenditure will affect human capital development in Kaduna State. However, the result showed no feedback causality of human capital development (HL) on both recurrent and capital expenditure on education in Kaduna State. No causality was found to exist between Recurrent Expenditure on Health (REH) and Human capital development (HL); also, no causality exists between Capital Expenditure on Health (CEH) and Human Capital Development (HL). In assessing the causality between Capital Expenditure on Education (CEE) in Kaduna State and Recurrent Expenditure on Education (REE), it was found that no causality exists between them as a policy measure on any of such will not have any economic implication on the other. Similarly, in testing whether there exists any causality between Recurrent Expenditure on Health (REH) and Recurrent Expenditure on Education, it was reported that no causality exists between both economic indicators. However, a unidirectional causality running from Recurrent Expenditure on Education (REE) to Capital Expenditure on Health Exist in Kaduna State. The study also showed a bi-directional causality between Recurrent Expenditure on Health (REH) and Capital Expenditure on Education (CEE) in Kaduna State. Also, a bi-directional causality exists between Capital Expenditure on Health (CEH) and Capital Expenditure on Education (CEE) in Kaduna State. However, no causality exists between Capital Expenditure on Health (CEH) and Recurrent Expenditure on Health (REH) in Kaduna State.

Discussion of Findings and Policy Implications

Public investment policy in developing Human Capital in Kaduna State over the years has increased but has not attained the recommended minimum standard. The central finding is that public spending was found to granger- cause the development of Human Capital. This result is obedient to the Endogenous Growth theory that emphasizes the development of human resources as a major factor that drives an economy toward prosperity. It is also in accord with the findings of (Liu, Hsu, et al. 2008, Oluwatobi and Ogunrinola 2011, Innocent 2017, Okafor, Ogbonna, et al. 2017, Omodero 2019, Erasmus 2021).

Conclusion and Recommendations

The study employed econometrics analytical techniques of descriptive statistics and unit root testing of all the variables. Following Augmented Dicky-Fuller unit root tests, Granger causality was adopted to explore the direction of causality between public spending and developing Human Capital in Kaduna State between 1990 and 2020. Finally, the study showed unidirectional causality running from recurrent expenditure on education to human capital development exists in the state; Capital expenditure on education to human capital development. Thus, policies by the government on recurrent and capital expenditure on education will affect human capital development in the state. No causality was found between recurrent and capital expenditure on health and human capital development in Kaduna state. This may mean that improving education is paramount to improving health in the context of Kaduna state.

In light of this, the following directions are relevant to ensure progress in human capital development in the state.

The government should thus, increase its annual budgetary allocation to these sectors in order to rapidly develop human capital in the state. This should be followed by specific strategies to monitor and evaluate the implementation of the funds appropriately. It is also necessary for policymakers to note that any drop in government spending on education and health will prove detrimental to the development of human capital in Kaduna state.Record keeping in both education and health sectors was found to be very poor in Kaduna state. Government should ensure adequate record-keeping at all levels in order to make reliable data from the state available.

The legislative arm of government should make laws to support constant and increasing government spending on education and health so that even when there is a change in government the policies will

remain the same in order to avoid negative shocks when there is a transition of power as found in the study. It should also ensure curricular development every five years to capture new trends in these sectors.Civil servants responsible for ensuring access to qualitative education and health services for Kaduna state's population should live up to expectations by showing commitment and dedication to their primary assignment. This will go a long way in the development of human capital. However, this will be very difficult if the government did not improve staff welfare. Improved working conditions by the government will spread education and health over urban and rural communities in the state, reduce the problem of brain drain and promote long life.Non-governmental societal organizations should invest in education and health sectors to meet up with the deficit in government expenditure. This will facilitate human capital development in Kaduna state. The private sector should also continue to provide affordable and accessible education and health services to Kaduna state citizens in urban, semi-urban, and rural communities. Institutions of learning should support the government in research in order to discover key areas of intervention.

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LIBRARY EDUCATORS: EVOLVING ROLE AND OPPORTUNITIES IN STRATEGIC DIGITAL CITIES IN NIGERIA

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Abstract
This paper looks at how the role of library educators is changing in Nigeria's strategic digital cities, it looks at how the role and opportunities of library educators in strategic digital cities, such as digital literacy and access to information, e-learning and education at a distance, how library educators can promote digital and learning for life, effects of digital literacy and lifelong learning, collaboration and partnership. The problems that library teachers face in the digital age, such as lack of money and tools, the need for them to keep learning and improving. The paper concludes that the value of library educators in promoting digital literacy and learning for life in strategic digital cities in Nigeria need to keep learning through, workshop, Conferences and continue education if they want to keep up with the digital world, way forward is that libraries and academic institutions should give library educators opportunity for capacity building.

Keywords: Library Educators, Digital Literacy, Lifelong Learning, Strategic Digital Cities, Nigeria.

Introduction

In recent years, there has been a greater emphasis in Nigeria on developing digital cities to harness the benefits of technology to improve inhabitants' quality of life of modern libraries that can serve as hubs for learning, creativity, and community interaction is an important aspect of creating digital cities. As a result, there is a greater demand for library educators who can meet the educational demands of the inhabitants of these cities.

Africa is the most rapidly urbanizing continent. By 2050, it will be home to more than 2.5 billion people, with urban areas housing 55% of the population (Güneralp et al in Echendua and Okafor 2021). African countries are characterized by poor healthcare infrastructure, as well as low levels of education and literacy. Faiyetole and Adewumi (2023) added that education is an essential instrument for achieving long-term growth. Libraries are essential to ensuring that citizens in Nigeria have the abilities, information, and resources necessary to prosper in the digital age as the country embraces digitization and aims to create smart cities (Okunlaya, Syed Abdullah and Alias, 2022).

The evolving roles and opportunities for library educators in Nigeria's key digital cities can be ascribed to the country's growing demand for digital literacy and lifelong learning. According to the World Bank, Nigeria has the most out-of-school children in the world, with over 10 million children not receiving any formal education (World Bank, 2018). This has resulted in an increase in demand for alternate modes of

education, such as online learning, e-books, and other digital resources, which libraries and librarians are well-positioned to deliver.

Furthermore, the Nigerian government has recognized the importance of digital literacy in achieving national development goals and has taken steps to promote digital skill development across the country. For example, in 2018, the government established the National Digital Literacy Programme, with the goal of training one million Nigerians in fundamental digital skills by 2021 (Federal Ministry of Communications and Digital Economy, 2021).

In response to these advances, libraries in Nigeria's strategic digital cities have shifted their attention to delivering digital resources and services such as e-books, online courses, and access to research databases. Library educators in these communities have played a crucial role in ensuring that citizens have access to and use these resources successfully.

Library educators in Nigeria's key digital cities have unique opportunities and challenges as they strive to expand their responsibilities and services to meet the demands of the twenty-first-century learning environment. They must be able to successfully use technology to provide access to a diverse range of educational resources and services. They must also be able to collaborate and partner with other players in the digital city ecosystem, such as schools, colleges, and technology firms, to guarantee people have access to the finest educational opportunities possible.

Simultaneously, library educators in Nigeria's strategic digital cities face challenges such as limited funding and resources, a lack of training and support, and the need to adapt to changing educational needs. Despite these challenges, library educators in Nigeria's strategic digital cities play an important role in promoting lifelong learning, fostering innovation, and driving economic growth. Library educators in these locations may assist to develop a brighter future for citizens and position Nigeria as a leader in the digital economy by demonstrating effective leadership, teamwork, and innovative thinking.

The growing demand for digital literacy and lifelong learning, as well as the Nigerian government's focus on promoting digital skills development, are changing the roles and possibilities for library educators in strategic digital cities. But this change is being slowed down by a number of problems, such as a lack of money and resources, training and support, infrastructure, the speed with which technology is changing, and a lack of collaboration and partnerships between library educators, schools, universities, and technology companies (Adetimirin and Igbeka, 2020). It's important to deal with these problems so that library educators in Nigeria's strategic digital cities can use digital tools and technologies to help people get the education they need and grow the economy and examined the library educators' roles and opportunities in strategic digital cities in Nigeria. The study highlighted the current role and opportunities of library educators in strategic digital cities in Nigeria; the impact of digital literacy and lifelong learning on the role of library educators in strategic digital cities in Nigeria; the extent of collaboration and partnership between library educators, schools, universities, and technology companies in Nigeria; challenges faced by library educators in utilizing digital resources and technologies in Nigeria and some strategies for library educators utilize in digital resources and technologies in Nigeria.

Current Role and Opportunities of Library Educators in Strategic Digital Cities in Nigeria

With the rise of digital tools and the need for people to learn throughout their lives, the role of library educators in Nigeria has changed over time. Recently, library educators have taken on a more strategic role in promoting digital literacy and giving people access to digital technologies and resources. The role of librarian educators in Nigeria's strategic digital cities is changing, and there are many ways for them to support the expansion of information access and digital literacy in their local communities. This part of the piece will look at what the relevant literature says about library educators' roles and opportunities in Nigeria's strategic digital cities.

1. **Digital Literacy and Access to Information:** Library educators in Nigeria are very important for spreading digital literacy and giving people access to digital tools and resources. Oyebo and Bamigboye (2020) say that the rise of digital technologies has made people want to learn more about how to use them. Library educators are in a good situation to provide the training and support that is needed. Also, library educators can help close the digital divide by giving people in underserved areas access to digital tools and resources. Chukwuemeka, C. and Habibu, I. I. (2023) noted that Library educators may teach digital literacy skills to people of all ages, from children to adults. Basic computer skills, internet usage, online safety, and information literacy are all covered. By providing people with these abilities, library educators enable them to efficiently traverse the digital realm and capitalize on the opportunities it provides.

2. **E-learning and education at a distance:** The COVID-19 pandemic has sped up the adoption of e-learning and distance education in Nigeria. This highlights the role of library educators in giving access to online educational resources. Adeyinka and Adeyemo (2020) say that library educators can support e-learning and distance education in a big way by giving students access to online learning materials and helping to set up virtual learning environments. This is a big chance for library educators to play a bigger part in promoting lifelong learning and giving people in Nigeria access to education.Maatuk, Elberkawi, Aljawarneh, Rashaideh, &Alhabi (2022)added that with the rise of online learning, library educators can collaborate with educational institutions and organizations to support e-learning initiatives. They can offer guidance on finding reputable online courses, assist in navigating learning platforms, and provide support to individuals who may not have access to the necessary technology or internet connectivity at home.

3. **Collaboration and partnership:** Educators in libraries, schools, universities, and technology companies must work together and form partnerships to give people the best educational chances possible. Adetimirin and Igbeka (2021) say that when library educators and other stakeholders work together, they can help close the digital gap and give people access to the latest digital tools and resources. This can also lead to the creation of new training programs that help people learn how to use technology and keep learning throughout their lives.Library educators can form partnerships with technology companies, startups, and local organizations to enhance their offerings and stay up-to-date with the latest digital tools and innovations. Such collaborations can lead to the development of tailored programs, workshops, and events that cater to the specific needs and interests of the community.

4. **Providing access to digital resources:** Libraries can serve as hubs for digital resources, offering access to e-books, online databases, digital magazines, and educational platforms. Library educators can curate and promote these resources, ensuring that community members are aware of their availability and know how to utilize them effectively for research, learning, and personal development.

5. **Fostering digital citizenship:** Library educators can play a crucial role in promoting responsible digital citizenship within their communities. This involves educating individuals on topics such as online etiquette, privacy and security, critical thinking, and evaluating online information. By fostering responsible online behavior, library educators help create a safer and more inclusive digital environment.

6. **Facilitating entrepreneurial skills:** Libraries can serve as spaces for entrepreneurship and innovation. Library educators can organize workshops and training sessions to teach entrepreneurial skills, such as business planning, digital marketing, and financial literacy. By nurturing an entrepreneurial mindset, libraries contribute to economic growth and job creation within their cities

7. **Bridging the digital divide and Community Engagement:** Library educators actively engage with the community, understanding their needs and aspirations. They collaborate with local schools, universities, businesses, and government agencies to align library services with community goals. They organize community-driven programs, cultural events, and discussions, fostering a sense of belonging and

shared knowledge within the city. Okusanya, Syed-Abdullah and Alias (2022) opine that library educators have the opportunity to address the digital divide by ensuring that all members of the community have equal access to digital resources and opportunities. This can involve initiatives like mobile libraries, outreach programs, and providing technology and internet access in underserved areas. By focusing on inclusivity, library educators contribute to a more equitable and connected society.

Impact of Digital Literacy and Lifelong Learning on the Role of Library Educators in Strategic Digital Cities in Nigeria

In the digital age, people and groups need to be able to use technology well and keep learning throughout their lives to do well. As Nigeria moves closer to becoming a strategic digital city, it is even more important for library trainers to promote digital literacy and learning for life. Chuckwuemeka and Habibu (2023) sees digital literacy as the ability to use digital technologies, communication tools, and networks to access, manage, integrate, assess, and produce information in order to function in society. Lifelong learning, on the other hand, is the process of constantly gaining new information and skills throughout one's life (Ojo and Ojo, 2021). This is important for adapting to changes and taking advantage of new opportunities in a world that is always changing. In the 21st century, you can't say enough about how important digital skills and learning throughout your life are. In a digital world, it's important for personal, social, and economic growth to be able to use technology and learn new things throughout life (UNESCO, 2013).

Libraries are very important for computer literacy and learning for life. Librarians are the gatekeepers of information. They can give people access to digital resources, help people find their way around the digital world, and teach them how to be digitally literate. Even more important is the role of library educators in supporting digital literacy and learning for life in Nigeria's strategic digital cities. Library educators are expected to help people and communities become digitally literate and keep learning throughout their lives so they can work well in a digital society (Olusanya, 2019).

Digital literacy and learning throughout life have a big effect on the role of library teachers in Nigeria's key digital cities. When library trainers learn digital literacy skills, they are better able to teach digital literacy skills to library users. Digital literacy skills also let library teachers and researchers use digital resources in their lessons and study, which improves the quality of library services. Lifelong learning also helps library educators keep up with technological changes and best practices in their field (Igwe & Nweke, 2018). This makes them better at offering library services.

The concept of digital literacy (DL) according to Rheingold (2012), Pagani, Argentin, Gui and Stanca (2016); and Dien, Pham and Nguyen (2022) noted that includes, the selective use of parameters and evaluation, interest in managed media or 'infotention', ethical research collaboration, collaboration in knowledge-creating networks, and digital citizenship. Mirza (2020) added that digital literacy has a significant impact on various kinds of students' skills. He further noted that digital literacy had influenced communication skills, research skills and confidence of the students. Pagani, Argentin, Gui and Stanca (2016) indicated that informational digital skills had a positive and significant effect on academic performance. Library educators needs digital competencies in strategies in lifelong learning, which Dien, Pham and Nguyen (2022) noted that are widely accepted as the most critical working competencies in the digital era. The race is becoming more aggressive among the companies to push the technology adoption and put pressure on the program learning outcomes of the higher education institutions all over the world.

Collaboration and Partnership between Library Educators, Schools, Universities and Technology Companies in Nigeria

In the digital age, it's very important for librarians, teachers, schools, colleges, and tech companies to work together and form partnerships. Libraries are no longer just places to read and take books; they are now hubs for learning how to use technology and learning for life. Schools and universities are also realizing how important it is to know how to use technology and are putting it into their lessons. Companies that

work with technology are making new tools that change how people learn and use knowledge.Abubakar (2022) noted that libraries have played an incredible role in fostering education and human development over the years.Working together and making partnerships between these groups can be very helpful for everyone concerned. Libraries can offer better digital literacy programs and tools to their users by using the knowledge of schools, universities, and tech companies. When it comes to promoting digital literacy and lifelong learning, library educators can help schools and colleges. When making and improving their technologies, tech companies can learn from what library trainers and academic institutions know.

Collaboration and partnership between library educators, schools, universities, and technology companies in Nigeria vary in extent and scope. While there are some examples of fruitful collaborations, the overall level of engagement between these entities is not yet as extensive as it could be. However, there is a growing recognition of the importance of such collaborations, and efforts are being made to foster stronger ties. Ukwoma, Iwundu & Iwundu, (2016); Igbozuruike, & Ogechi. (2022) and Abubakar (2022) highlighted some of the collaboration and partners between library educators, schools, universities and technology companies in Nigeria to include but not limited to:

1. **Curriculum Development:** Collaboration between library educators, schools, and universities can contribute to the development of curriculum materials and resources that integrate digital literacy and information literacy skills. Library educators can share their expertise in digital resources, research skills, and information literacy, while schools and universities can provide insights into the educational requirements and outcomes. Such collaborations can result in more effective and relevant curriculum content that prepares students for the digital age.

2. **Professional Development:** Libraries, schools, and universities can collaborate to provide professional development opportunities for educators. Library educators can conduct workshops, training sessions, and webinars on digital literacy, information literacy, and other relevant topics. Schools and universities can facilitate access to their facilities and resources, and also contribute subject matter expertise. By working together, they can enhance the professional skills of educators and promote best practices in digital education.

3. **Resource Sharing:** Collaboration in resource sharing can greatly benefit all parties involved. Libraries can partner with schools and universities to provide access to their digital resources, including e-books, online databases, and research materials. In return, schools and universities can offer access to their educational resources, academic journals, and specialized databases. Such collaborations enable wider access to information and resources, benefitting both students and library users.

4. **Technology Integration:** Technology companies can collaborate with library educators, schools, and universities to integrate digital tools and technologies into the learning environment. This can involve providing software, hardware, or technical expertise to enhance digital literacy training, create interactive learning platforms, or develop educational applications. By working together, they can leverage technology to improve teaching and learning experiences.

5. **Research and Innovation:** Collaboration between library educators, schools, universities, and technology companies can foster research and innovation in the field of education and digital literacy. Joint research projects, data sharing, and collaborative studies can contribute to the development of evidence-based practices and the advancement of educational technologies. Such collaborations can also lead to the creation of innovative solutions and tools specifically tailored to the Nigerian educational context.

While there are examples of successful collaborations and partnerships between library educators, schools, universities, and technology companies in Nigeria, it's important to note that the extent of these collaborations may vary across different regions and institutions. Factors such as funding, infrastructure,

and institutional priorities can influence the level of engagement. However, as the importance of digital literacy and technology integration in education continues to grow, there is a strong rationale for increased collaboration and partnership among these stakeholders to collectively address the challenges and opportunities of the digital age.

In Nigeria,The Nigerian Library Association (NLA) has been a leader in getting librarians, involved in using evolving technologies to teach. The NLA has put on conferences, classes, and training programs to help people learn digital skills and keep learning throughout their lives. The NLA has also teamed up with schools and colleges to teach students and teachers how to use technology.

Digital literacy and lifelong learning have significantly impacted the role of library educators in strategic digital cities in Nigeria. These factors have transformed libraries from traditional repositories of books into dynamic hubs for information access, digital skills development, and community engagement.

Benefits of Strategic Digital Cities to library Educators

1. Access to Information: Digital literacy has broadened access to information in strategic digital cities. Library educators play a crucial role in teaching community members how to navigate online resources, search for information effectively, and critically evaluate digital content. They assist in bridging the digital divide by providing access to digital resources and helping users understand how to make the best use of them.

2. Digital Skills Development: Lifelong learning initiatives facilitated by library educators enable individuals to acquire and enhance their digital skills. Libraries offer training programs and workshops on various topics, such as computer literacy, internet usage, coding, digital marketing, and data analysis. By equipping community members with these skills, library educators empower them to participate in the digital economy and adapt to the evolving technological landscape.

3. Empowering Citizens: Digital literacy empowers citizens to engage in online platforms, participate in civic activities, and access e-government services. Library educators facilitate digital citizenship programs that teach responsible online behavior, internet safety, and privacy protection. They help citizens understand their rights and responsibilities in the digital realm, fostering informed and responsible digital citizens.

4. Entrepreneurship and Job Opportunities: Lifelong learning initiatives supported by library educators contribute to economic development by promoting entrepreneurship and creating job opportunities. Libraries offer resources and workshops on business planning, digital marketing, and e-commerce. By enhancing digital literacy and entrepreneurial skills, library educators enable individuals to start and manage businesses, thereby boosting local economies.

5. Community Engagement: Libraries have become vibrant community spaces that promote lifelong learning and foster social connections. Library educators organize workshops, seminars, and cultural events that bring people together, encourage collaboration, and nurture a sense of belonging. Digital literacy initiatives facilitate intergenerational learning, where older adults and youth can exchange knowledge and skills, bridging the digital generation gap.

6. Digital Preservation and Curation: Library educators play a crucial role in preserving and curating digital content. As more information becomes available in digital formats, libraries must ensure the long-term accessibility and preservation of digital resources. Educators guide users in understanding digital preservation techniques, copyright issues, and ethical considerations in managing digital collections.

7. Advocacy and Policy Development: Library educators advocate for policies that promote digital literacy and lifelong learning. They collaborate with government agencies, educational institutions, and other stakeholders to shape policies that facilitate equitable access to information, technology.

Strategies for library educators in utilizing digital resources and technologies in Nigeria

When it comes to library educators in Nigeria utilizing digital resources and technologies, here are some strategies they can consider:

1. Assessing available resources: Begin by evaluating the digital resources and technologies that are already accessible within the library. Identify the strengths and weaknesses of the current infrastructure, hardware, software, and internet connectivity to determine what improvements or additions are needed.

2. Collaborating with stakeholders: Engage with stakeholders such as teachers, students, parents, and community members to understand their needs and expectations. This collaborative approach will help in designing digital initiatives that align with the requirements of the library users.

3. Building digital literacy skills: Conduct workshops, training sessions, or webinars to enhance the digital literacy skills of both library staff and users. This could include topics such as online research skills, information literacy, data analysis, and digital content creation.

4. Curating digital content: Develop a digital repository of resources that is relevant to the local curriculum and learning objectives. Include e-books, e-journals, educational videos, interactive learning modules, and other digital materials that can support teaching and learning.

5. Providing access to online databases and platforms: Subscribe to reputable online databases, e-learning platforms, and digital libraries that offer a wide range of resources across different subjects. Ensure that students and teachers have access to these platforms both within the library and remotely.

6. Creating a virtual learning environment: Establish a dedicated online space where library users can interact, collaborate, and access digital resources. This can be in the form of a learning management system, a library website, or a social learning platform where users can engage in discussions, share resources, and participate in online activities.

7. Promoting digital citizenship and online safety: Educate library users about responsible and ethical use of digital resources, including topics such as plagiarism, copyright, and online privacy. Teach them how to critically evaluate online information and engage in respectful online communication.

8. Monitoring and evaluation: Regularly assess the effectiveness of digital initiatives and technologies implemented in the library. Gather feedback from library users, conduct surveys or interviews to gauge their satisfaction and identify areas for improvement. Use data analytics to analyze usage patterns and make informed decisions about resource allocation and future initiatives.

9. Establishing partnerships: Collaborate with other libraries, educational institutions, government agencies, and NGOs to share resources, expertise, and best practices. This can help in accessing funding opportunities, sharing knowledge, and expanding the impact of digital initiatives.

10. Keeping up with emerging trends: Stay updated with the latest advancements in digital technologies and educational practices. Attend conferences, workshops, and webinars related to library sciences and digital education. Engage in professional development activities to enhance skills and knowledge in utilizing digital resources effectively.

By implementing these strategies, library educators in Nigeria can harness the power of digital resources and technologies to enhance the learning experience, promote digital literacy, and provide access to a wider range of educational materials.

Challenges faced by library educators in utilizing digital resources and technologies in Nigeria.
Even though there is a growing need for digital literacy and lifelong learning, it is hard for library educators in Nigeria to use digital resources and technologies successfully. In this part of the article, we'll look at what related literature says about the problems library educators in Nigeria face when they try to use digital resources and technologies.

- **Insufficient resources and funds:** The lack of money and tools for digital projects is one of the biggest problems library educators in Nigeria have to deal with. Okebukola and Ojo (2020) say that Nigerian libraries can't provide access to digital tools and technologies because they don't have enough money for technology infrastructure. This lack of money and resources also makes it hard for library educators to get training and help on how to use digital tools well.

- **Inadequate training and support:** Library teachers in Nigeria also don't have enough training and help to use digital tools and resources well. Adetimirin and Igbeka (2021) say that many library educators in Nigeria don't have the skills and information they need to use digital resources well. This means that they can't help digital literacy and lifelong learning programs as well as they could. Also, library teachers who want to improve their computer skills don't have a lot of support or advice available.

- **Insufficient infrastructure:** Nigeria's lack of infrastructure is also a big problem for library teachers who want to use digital tools and technologies well. Oyebo and Bamigboye (2020) say that many Nigerian libraries don't have access to high-speed internet, which makes it harder for them to give people access to digital tools and technologies. Also, power outages and other problems with infrastructure make it harder for library educators to use digital tools well.

- **Changes in technology:** Nigerian library teachers also have to deal with the fact that technology is changing quickly. Adetimirin and Igbeka (2021) say that library educators need to keep up with the latest changes in digital tools to help with digital literacy and lifelong learning. But because technology changes so quickly, it can be hard for library teachers to keep up and learn the skills they need.

- **Lack of working together and working with others:** For digital tools and technologies to be used well, library educators, schools, universities, and technology companies must work together and form partnerships. Okebukola and Ojo (2020), however, say that stakeholders in Nigeria don't work together or partner up enough, which makes digital efforts less effective. This lack of working together and forming partnerships also makes it harder for library educators to come up with new ways to teach that support digital literacy and learning for life.

Conclusion
In the end, the changing role of library educators in Nigeria's key digital cities brings both problems and chances. In the digital age, library educators are becoming more and more known as important people for promoting digital literacy and learning for life. But they have to deal with a number of problems, such as a lack of money and tools and the need to keep getting better at their jobs.To deal with these problems, libraries, schools, universities, and tech companies need to work together and establish partnerships to make and run effective digital literacy programs. Some steps have already been taken by the Nigerian Library Association and some tech companies to encourage teamwork and partnership. But more work needs to be done to fully understand what these partnerships can do.For library workers to keep up with how quickly the digital world is changing, they also need to keep learning. Library educators need training

programs and workshops to give them the skills and information they need to promote digital literacy and learning for life.

Way forward

Based on what this paper has found, the following suggestions are made:

> The Nigerian Library Association should keep encouraging libraries, schools, universities, and technology companies to work together and form partnerships to create and run successful digital literacy programs.

> Technology companies should give money and resources to libraries and schools so they can create and run programs to help people learn how to use technology.

> Libraries and academic institutions should give library educators chances for ongoing professional development so they can keep up with how quickly the digital world is changing.

> The government should also help fund and support programs that teach people how to use technology in libraries and schools.

> Lastly, more study needs to be done on the changing role of library educators in Nigeria's strategic digital cities so that we can learn more about the problems and opportunities that come with it.

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THE INSTİTUİTİONALİZATİON OF ICT BASED KNOWLEDGE SHARİNG: THE PARADİGM FOR ACADEMİC EXCELLENCE İN FEDERAL UNİVERSİTİES İN NİGERİA. (AHMADU BELLO UNİVERSİTY, ZARİA AS A CASE STUDY)

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Abstract
The aim of this study was to investigate the practicality of Knowledge Sharing Techniques (KST) used by academic staff for Teaching and Research in Ahmadu Bello University, Zaria. Three research questions were raised for the study and an action based survey deduced from a Quantitative method was conducted where 182 out of 1,182 academic staff of the University from the ranks of Lecturer 1 to Professor were strategically and proportionately randomly sampled before independently administering questionnaires to. The study revealed that the University must find a way to lure its academic staff to be committed, consistent and engaged in more modern Knowledge Sharing Techniques especially the use of Information Communication Technology Techniques. The study also revealed, that the University's website is highly under-utilized by its academic staff hence the Institutional Repository, virtual environments and other technologies meant to enhance and share their output in the University. Research clusters are major KS Techniques for input, growth and productivity of research in every University especially in developed countries. This also was revealed to be almost non-existent in Ahmadu Bello University, Zaria. The study also indicated that Ahmadu Bello University, Zaria has no functional policy on KS, as investigations show that there is no clear policy officially laid down by the University management on how Knowledge should be shared or even managed. The Study recommended, that a structure and Policy be put in place to monitor and promote KS activities and ensure that all research outputs at every level is deposited in the University's Institutional Repository. Also, It was recommended that the University pays for every submission that gets accepted in high Impact Journal and Organize quarterly workshops to update staff on current KST's.

Keywords: Knowledge Sharing Techniques, ICT, Institutionalization, Academic Staff and Universities.

Introduction: Background to the Study

Every University in the world with an excellent performance in academic activities must have achieved a lot in the application of Knowledge Sharing. They possess inexhaustible channels of sharing activities that enhance Teaching, Learning and Research in order to relate discoveries, ideas, experiences and skills. In recent times, these universities have used ICT based knowledge sharing to get to their continuous desired achievements. ICT based Knowledge Sharing has become a norm and standard procedure within the confines of these universities, and this is one of the major reasons they achieve higher performance ratings. They have Institutionalized ICT based Knowledge Sharing. According to Greenwood et al, (2015) Institutionalization involves the procedures and process which structures including schemes, rules norms and routines become established as authoritative guidelines for social behavior and change. Bamigboye,

Bamidele, Ogunyinka, Akeem and Adeniyi. (2020), further described Universities as the "universality of knowledge and learning, with the centrality to promoting linkages with one another leading to societal development. To be relevant as a University, each University must continue to engage in the promotion of productive research or studies that will help solve the challenges and problems in societies. Oliver, (2021) symbolized ICT as a change agent for education universally. Universities must keep up their missions and visions and make standard output both globally and locally.

Ahmadu Bello University, Zaria is one of the foremost universities in Nigeria, and has been saddled with the responsibility of promoting Knowledge Sharing both within and outside its terrain. The academics in Ahmadu Bello University play an important role in propagating both existing and newly obtained Knowledge all over the world. Considering the huge number of the Knowledge resources acquired in the University and the constant need for new knowledge, Knowledge Sharing is been utilized by faculty members to gain access to the Knowledge required by them to carry out their daily academic schedules.

However, preliminary investigation have speculated that there are challenges such as lack of Knowledge Sharing culture, poor utilization of existing Techniques used in sharing knowledge, and even in a few cases unawareness of Knowledge Sharing benefits and technologies for academic activities. Omrane, Patra & Sumona, (2023) acknowledged that, despite the fact that Knowledge Sharing Techniques are very accessible, and mostly inexpensive, few academics have taken full advantage of this potential to share local, indigenous and collaborative research results within and outside their territories. As a result, potentially valuable knowledge in terms of research output, class room content, product design and policy development, and other Knowledge derived from Nigerian research centers and tertiary institutions remain hidden and sometimes even lost from local development, as well as from the wider global academic community. As pointed out by Olatunde, & Ogunrode, (2022) the growth of universities depends on how they manage and disseminate Knowledge by using new technology to support research and teaching. Most Universities round the world with an excellent performance in academic activities must have achieved a lot in Knowledge Sharing. They possess inexhaustible channels of sharing activities like research discoveries, ideas, experiences and skills. These universities have used Knowledge Sharing Techniques to get to their continuous desired achievements. Knowledge Sharing has become a norm and standard procedure within the confines of these universities, and this is one of the major reasons they achieve higher performance ratings.

Research Methodology

Quantitatively, a Stratified Proportionately Random Sampling Technique was used to obtain a sample size of 182 (10%), out of a total of 1,182, derived from academic staff in A.B.U, Zaria, ranging from the rank of Lecturer I to Professor. An action based survey was carried out by the administration of questionnaires. Face and content validity was used to measure the extent of the questionnaires validity. The questionnaires were used to collect information on the type of Knowledge utilized, Knowledge Sharing Techniques, existence and Involvement of research clusters for Teaching and Research, channels of publicizing research output, and challenges encountered during Knowledge Sharing among academic staff in Ahmadu Bello University, Zaria. Statistical Package for the Social Sciences (SPSS) was used for the analysis of the data derived from the questionnaires using descriptive statistics with Frequencies, Mean, Percentages and Standard deviation.

Results and Discussions

The following results were obtained and the following observations (discussions) were made below:

1. Knowledge Sharing Techniques utilized for Teaching and Research by Academic staff in Ahmadu Bello University, Zaria: These results revealed in Figure 4.1 show that lecturing is the most widely used technique for sharing Knowledge for Teaching and Research with the mean of 0.91, then seminars (0.82) and mentoring (0.80) and then information discussion (Figure 2). In comparism, virtual

environments obtained the lowest (0.43), social media (0.51), internet/ on-line service (0.54), and Institutional Repository (0.50) (Figure 1). This reveals a gap in the utilization of Information Communication Technology in carrying out academic activities in Ahmadu Bello University, Zaria which are the main learning instruments in most modern day universities. The results revealed that the universities Institutional Repository, social media and on line facilities are not been sufficiently functional for Teaching and Research.

Information technology (IT) is an inevitably tool for successful Knowledge management and Sharing implementation (Bhatt, 2001; Kim et al., 2003), hence the University should pay attention to this aspect. However, ICT functions as a platform for Knowledge Sharing is by itself insufficient to encourage Knowledge Sharing as suggested by Hendricks (1999): *"The role of ICT for Knowledge Sharing can only be fully understood if it is related to the motivation for Knowledge Sharing…"* On top of the motivation for Knowledge Sharing, Brazelton and Gorry (2003) had also exposed the idea that technology alone may not effectively encourage Knowledge Sharing activities. Kim and Jarvenpaa (2008) had supported the importance of the existing relationship between communicating parties as a formula to shape technological-enabled-Knowledge activities.

2. Existence and Involvement of Research Clusters for Teaching and Research by Academic Staff: Figure 4.2 shows that indigent status of research clusters in the University, the cumulative means of 0.39, 0.39, 0.39, 0.57, and 0.57 were derived. This can be widely perceived as very low participation and availability of research clusters in Ahmadu Bello University, Zaria. Also, the cumulative mean of 1.73 is lower than the standard/decision mean of 2.0, this implies that majority of the academic staff are of the opinion that the clusters are not functional at the University level except in faculties of Vet Medicine and Agriculture and departments like Quantity Survey, Chemical Pathology and Veterinary Surgery. Specifically on whether they are aware of any research cluster in inter- discipline in A.B.U. Zaria, an over whelming number of faculties that denied their existence. The figure shows that, there is a decline in the few that were established before now, because the chart shows a high frequency that agreed that they are presently involved but no more and (more than once, MTO) but on the contrary when asked for the present status of University clusters the percentages dropped extensively. Then, their existence at different levels was also not impressive as they serve as a strong back ground for the excellence and performance in any University.

3. Challenges encountered by Academic staff in sharing of Knowledge for Teaching and Research in Ahmadu Bello University, Zaria: Responses of the academic staff as presented in figure 4.3 show that there are enormous challenges encountered in Knowledge Sharing for Teaching and Research by academic staff in A.B.U. Zaria. This can be seen by the cumulative mean results which are all under the decision mean of 2.00. These show a hindrance of the flow of Knowledge Sharing within the University, Specifically, Poor Bandwidth and Internet services on campus and Insufficient Time (0.18), Fear of Plagiarism (0.29), In sufficient funds (0.24), lack of policy on KS (0.24), lack of incentives from the University (0.26), irresponsiveness of colleagues and In conducive academic environment (0.21) are the major threats which challenges which seem to be interfering with Knowledge Sharing in A.B.U. These challenges have all marred the rate of Knowledge Sharing and are all individually and collectively tied to the lack of a Knowledge Sharing policy in the University because the policy would address all these issues been presented as challenges. This finding is in tandem with that of Riege (2005) and Yuan et al. (2005) who discovered that lack of proper Knowledge Sharing could also be associated to various physical facilities, technological, psychological, personality, and cultural factors, also Cheng et al. (2009) who found that incentive system and personal expectations significantly influenced Knowledge Sharing among academics in a University in Malaysia while forced participation did not encourage Knowledge Sharing. Among academics in the University of Ibadan, Nigeria, Elogie (2010) employed the theory of reasoned action and discovered that behavioral intention to share did not significantly influence Knowledge Sharing.

Figures and Tables

Figure 4.1: Knowledge Sharing Techniques used in sharing Knowledge for Teaching and Research among the academic staff of Ahmadu Bello University, Zaria.

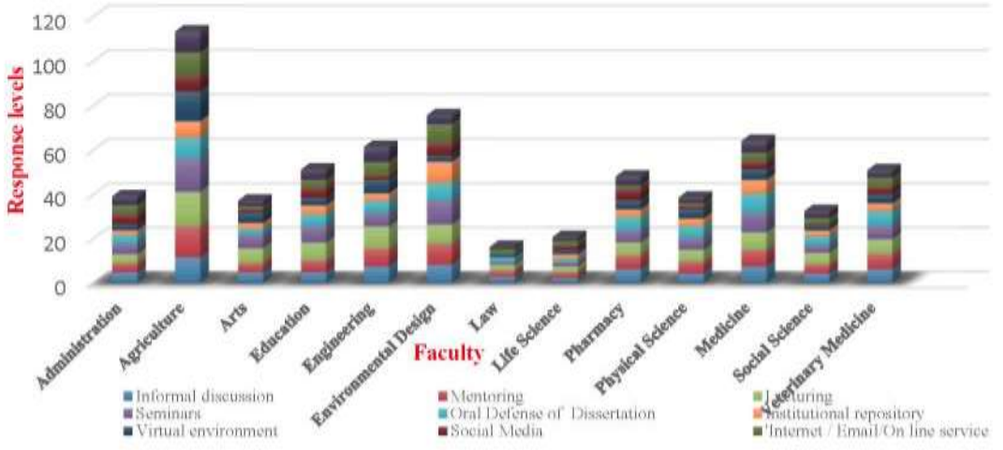


Figure 4.2: Involvement and Existence of Research clusters in A.B.U. Zaria.

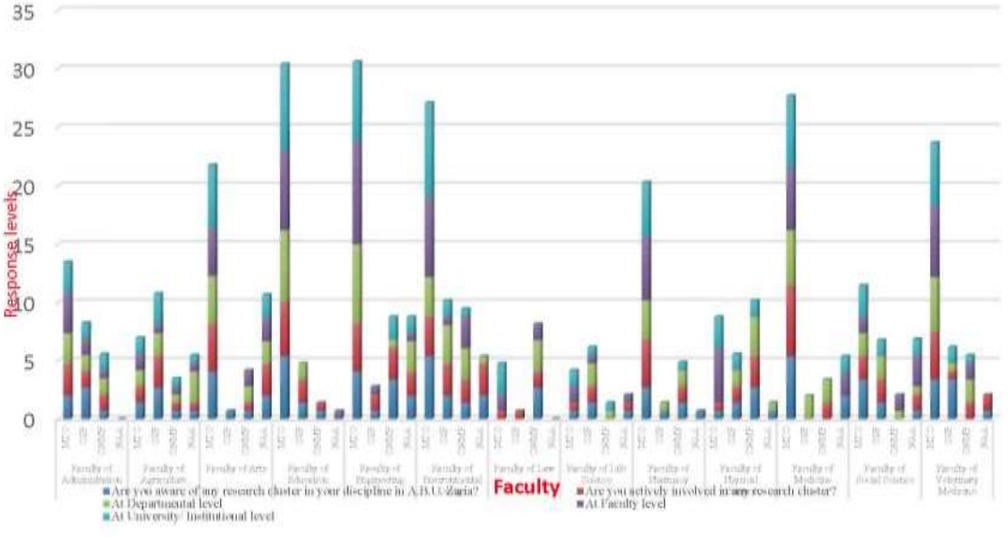
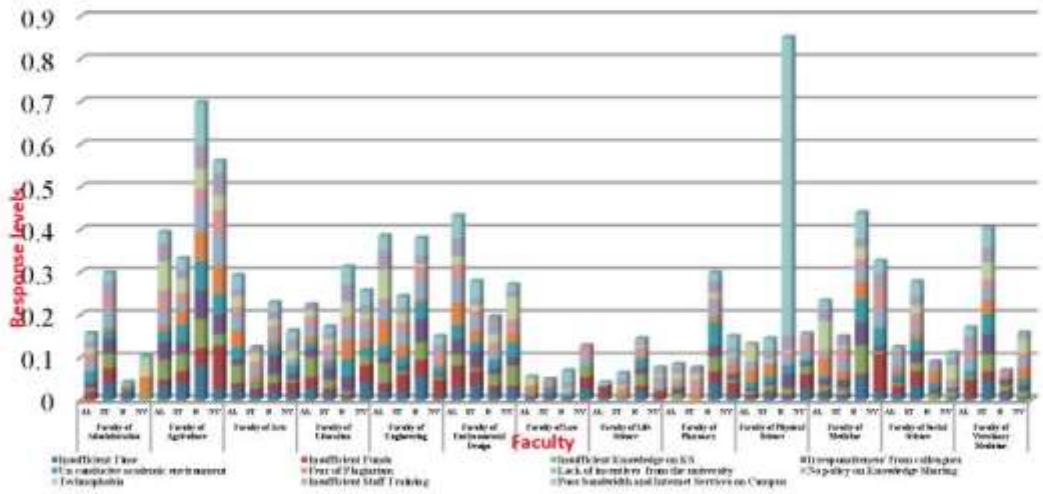


Figure 4.3: Challenges encountered in Knowledge Sharing for Teaching and Research by academic staff in A.B.U. Zaria.



Conclusion

The study revealed the practicality of the status of utilization of Knowledge Sharing Techniques for Teaching and Research among Academic staff in Ahmadu Bello University, Zaria. The study discovered that the University's website is highly under-utilized, by academic staff, as well as the Institutional Repository, Virtual Environments and other technologies like Moodles meant to enhance their academic output. It also showed that Research clusters which are major Techniques for the input, growth and productivity in Universities all around the world, are almost non- existent in Ahmadu Bello University, Zaria. These clusters are an excellent way of nurturing academic co-existence and career progression as well as generating funds in the University. Absence of RC's make a very huge deficit on the internal progression and on the output of the University. The study also indicated that Ahmadu Bello University, Zaria has no functional policy on KS, investigations show that there is no clear cut policy officially laid down by the University management on how Knowledge can be shared, monitored, stored or even promoted.

Recommendations

Based on the findings of this study and the conclusions reached, the following Recommendations were made:

1. A Policy should be established on how Knowledge sharing should be structured and should captured him under listed items and other issues:
2. The University should try to lure its academic staff into adequate utilization of Internet and ICT based Knowledge Sharing Techniques, to enhance effective and appropriate dissemination of information.
3. The University management should regularly organize workshops, trainings and seminars on, the utilization of Learning Management software like Al Techa, Black Board, One Note, Google Teams e.t.c also the Institutional Repository, E- classrooms, Virtual Environments and also topics like; how to make the best use of social media for teaching, and even how to properly utilize the University's website, Class and Time management as well as other aspects of Teaching, and Research.

4. The University should encourage scholars by sponsoring any paper that gets accepted to publish in Elsevier /Scopus indexed journals or any high impact journal in order to gain more Global recognition and peer relevant collaborations.
5. All Librarians in the Faculties and Institutes should make a monthly/quarterly comprehensive submission of all research work to the Central Library. (Kashim Ibrahim Library) which will ensure that these research works will be uploaded in the University's Institutional Repository.
6. The University should organize Annual research fairs, and invite companies and relevant establishments; this will spur competition and zeal for more collaboration for research amongst scholars and also encourage commercialization of products and services.
7. Incentives and Rewards should be used to encourage staff to engage in more collaborative research as well as promote the image of the University. The management of A.B.U. should establish, publicize and financially support as many research clusters as possible to be functional clusters in all disciplines within the University. As by doing this the issues of funding for research will be a thing of the past.

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IMPACT OF FOURTH INDUSTRIAL REVOLUTION AND COLLABORATION BY INFORMATION PROFESSIONALS FOR EFFECTIVE DISSEMINATION OF INFORMATION IN UNIVERSITY LIBRARIES IN NIGERIA

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Abstract
In this era of information overload, it is important for information professionals to understand the value of collaborating with libraries at other institutions in order to improve the efficient transmission of information within university libraries. This essay explores the effects of the fourth industrial revolution and the cooperation of information specialists for efficient information distribution in Nigerian university libraries. The study covered the Fourth Industrial Revolution and information professionals' cooperation. Among users and information experts, the distribution of information resources. Collaboration for efficient information dissemination and the impact of the fourth industrial revolution were also thoroughly explained. There were a few obstacles to 4IR and collaboration in university libraries. Conclusion and recommendations for the future were made, stating that information professionals must promote and instill a effective dissemination of communication.

Keywords: Fourth industrial revolution, Collaboration, Information professionals, Information dissemination, University Libraries.

Introduction

The world is headed for a new industrial revolution, one in which digital technology has made previously unheard-of advancements. The term "Fourth Industrial Revolution" (also known as "4IR") describes the current phase of extremely rapid technology advancement that is fundamentally altering the way we live. The boundaries between the physical, digital, and biological worlds become hazier because of the fourth industrial revolution (4IR). The Fourth Industrial Revolution (4IR) has led to the need for a new set of knowledge, skills, and competencies for the workplace of the twenty-first century, particularly in university libraries and for information professionals who are responsible for the efficient dissemination of information.

Complex and information distribution, particularly in the academic context, has become crucial to meet the issues facing information professionals in the digital world library environment. In this era of information overload, it is important for information professionals to understand the value of collaborating with libraries at other institutions to improve the efficient transmission of information within university libraries. It is crucial to adapt to and make use of cutting-edge innovations associated to the Fourth Industrial Revolution (4IR, or Industry 4.0) in the ICT-driven era in order to effectively share resources and collaborate on key profession-related tasks like information dissemination (Akpobasah, Mordi, Owoicho

and Omosekejimi, 2022). The 4IR is founded on fundamental concepts like artificial intelligence (AI), the internet of things (IoT), and big data (big data), which are closely tied to the area of information and libraries. This is anticipated to significantly alter how consumers are provided with information (Abram, 2019). In order to facilitate collaboration that can result in the exchange of ideas and information resources necessary to meet the information needs of their user community, academic libraries, in particular, must adopt the use of computers, telecommunications, and other sophisticated technologies associated with the 4th industrial revolution, according to Akpobasah, Mordi, Owoicho, and Omosekejimi (2022).

Specialists in information delivery, information professionals can choose, get, process, store, maintain, and disseminate information resources to clients inside or outside of a business. Such as libraries, hospitals, financial institutions, places of public transportation, and more (Jha, 2023).

Concepts related to the Fourth Industrial Revolution (4IR) have gained traction and been brought up in discussions about higher education institutions. Academic libraries are not an exception to the global transformation it has brought about in other industries. According to Dube (2021), who pointed out that as the COVID-19 Pandemic debated how the 4IR could be adopted in academic libraries. Academic libraries were forced by the COVID-19 Pandemic to adopt the 4IR quickly to effectively disseminate information (Durokifa and Ijeoma, 2020). To stop the spread of the Coronavirus, academic libraries and higher education institutions urged information professionals to work remotely or on a rotating basis. Additionally, academic libraries switched to providing remote library and information distribution with assistance and reliance.

A special Global Vision debate was held by the International Federation of Library Associations and Institutions (IFLA) on July 5, 2017. (Church, Butz, Cassell, Kamar, Swindells, Tallman and Snellenberg, 2017 in Muhammad and Rabiahtul 2018). The topic of discussion was how the field of libraries might work together to meet the difficulties of the 4IR era. They came to an accord that read as follows:

> "Libraries enable literate, informed and participative societies. When we look at the future, according to the debates in our teleconference, libraries will be trustworthy information brokers; will do more with new technology; provide universal access to information and scholarly works, whether it be media or information we already know or new media; preserving and providing access to information in all formats and providing trusted and effective support for political and social engagement. Libraries will be advocates for and facilitators of the Fourth Industrial Revolution, where people create their own devices and objects."

Fourth Industrial Revolution

On July 5, 2017, the International Federation of Library Associations, and Institutions (IFLA) held a special Global Vision discussion (Church, Butz, Cassell, Kamar, Swindells, Tallman and Snellenberg, 2017 in Muhammad and Rabiahtul 2018). The topic of discussion was how the library community can meet the difficulties of the 4IR era. They came to the following agreement: Industrial Revolutionism are simply eras that introduced and developed technologies, which has to do with changes in technologies that are connected to digital transformation. Technology advancement has resulted in three global revolutions and a fourth is currently underway which all have impacted the practices and operations in libraries (Tella, Okojie, Abdullahi and Ajani, 2022). Libraries in the world have gradually transformed from traditional models to modern ones such as building bibliographic databases and supporting searching information. In the findings of Doan and Dang (2021) who opined that revolution in the application of technologies in libraries are more of modern tools such as the application of library management software.

Phases of Industrial Revolution

Industrial Revolutionism are simply eras that introduced and developed technologies, that has to do with changes in technologies that are connected to digital transformation that started at the end of 18th century to date, these phases are as follows:

The invention of the steam engine during the eighteenth and nineteenth centuries in Europe and America led to the beginning of the first industrial revolution in the iron and textile sectors. Prior to World War II (1939–45), the Second Industrial Revolution, which lasted from 1870 to 1940, saw the development of the internal combustion engine, the telephone, light bulbs, and the phonograph, as well as the mass production of steel, oil, electricity, and electric power. According to the research of Torukwein (2021), the term "industrial revolution" is a catchphrase that many readers have undoubtedly heard in their history classes and are likely to associate with a time frame from the late eighteenth to the mid-nineteenth century during which small home-based industries gradually gave way to larger scale production in industrial shops.

With the transition from analogue electronic and mechanical equipment to digital technologies starting in 1980, the Third Industrial Revolution is known as the "digital revolution." Enoch (2020), who noted the emergence of personal computers, the internet, and information and communication technologies, is of the opinion (ICT).

The fourth industrial revolution, also known as the digital processes, which is taking place from 2013 to 2019, is accompanied by several innovations that aim to compel digitalization, network, and virtualization in all spheres of existence. It has to do with automation and data sharing in digitally based industrial systems as observed in the findings of Spotti and Windelband (2020).

People and machines are connecting to each other at a breakneck pace, and the flow of information is growing at an alarming rate. More data than ever before is being gathered and used. Artificial intelligence, mobile computing, machine learning, and trade-specific automation are becoming need of the day. Many individuals think these shifts are rare (Hussain, 2019). Robots and RFID technologies are combined in several academic libraries. It is possible to retrieve bibliographic record data from the store and exchange books with users upon request. While presenting this data on the web, artificial intelligence can aid library staff in spotting serious problems. AI and the internet of things are excellent instances of 4IR library data.

According to research by Echem and Lulu-Pokubo (2022) who posited that libraries have gone through three stages of development during these industrial revolutions. These phases include the emergence of automation systems that led to the use of MARC and OPAC, audiovisual media systems, and web-based indexing; the development of CD-ROMs, full-text databases, the Internet, and the Web; and the advancement of new technology.

Information professionals Collaboration

Information and communication technology (ICT) has significantly changed libraries in recent years, which has had an impact on how information is presented to users. Electronic means of information distribution have replaced traditional methods of library and information dissemination in university libraries. Information dissemination and access have improved because of the development and use of ICTs in library operations, and they are also free from new roles in the provision, distribution, and transmission of information. Libraries no longer hinder the spread of information since ICT development has made it simpler to meet consumers' information needs regardless of time, place, format, and currency and they also emphasize that to encourage learning, research, and recreation (Sahabi and Otobo, 2022).

To provide the university community with effective information distribution, information professionals must collaborate and understand the Fourth Industrial Revolution (4IR). Advocacy, social media, mobile devices, reference services, partnerships, interlibrary loans, ask the librarian services, and SDI alert services

are just a few of the services offered. According to Doan and Dang (2021) results from 2021, libraries may benefit from the 4IR's prospects and people in developing nations can catch up to those in developed nations by adopting the usage of AI, big data analytics, and blockchain. Opportunities in the 4IR Era Thanks to technological advancements, library customers of all ages may now afford and access the digital world.

Fourth Industrial Revolution (4IR) and Collaboration by Information Professional for Effective Information Dissemination

The Fourth Industrial Revolution (4IR) has introduced a new dimension to change in recent decades in addition to growing exponentially in libraries. According to Louw and Dube (2021), who define 4IR as the technological replacement of human competency since it has taken over how we work, live, communicate, and educate, the 4IR uses blended technologies to erase the boundaries between the physical, biological, and digital domains. Technology use in practically every part of life has the potential to diminish morality, sensitivity, ethics, and values by taking away the "human touch" in activities. Like this, Koekemoer and Von Solms (2021) observed that the 4IR offers fresh technological answers that can resolve problems with fundamental information distribution. The Fourth Industrial Revolution (4IR) is posing several challenges to the world as we know it. To keep up with the global trends of big data and data visualization, cloud computing, artificial intelligence, electronic resource management, mobile-based library services, intelligent library search, and federated search, among other 4IR technologies, information professionals have been forced to change the way we produce products and services.

Cloud computing

This is a brand-new phenomenon in the library and is a related technological advancement of the Fourth Industrial Revolution. If libraries can adapt it for the benefit of their users, this phenomenon, which is still in its infancy, will be very beneficial to information professionals for partnership and collaboration among other things. According to Akpobasah, Mordi, Owoicho, and Omosekejimi (2022), information professionals across the world are embracing cloud computing to streamline and reduce the cost of library information dissemination. The development of digital repositories or libraries is significantly aided by this library management system. Zubairu, Akiola, and Hamzat (2021) emphasized that cloud computing also makes sure that infrastructure, personnel, and other resources are used to their full potential. Additionally, the technology is employed for quick and efficient library.

Electronic Resource Management

Electronic resources include e-books, e-journals, online databases, and other digitally formatted products that may be accessed electronically. To effectively disseminate information to library users, information professionals can utilize e-Resource Management Software in libraries to track the collection, access, authorization, maintenance, usage, evaluation, reservation, and selection of a library's electronic information resources.

Big Data and Data Visualization

Data and Big Data Visualization is a technique for presenting a huge amount of data in the form of graphs, maps, charts, and other visual representations. This makes it simpler for the human mind to understand the information and makes it simpler to identify trends, patterns, and outliers within huge data sets. Information specialists in libraries can access a wealth of data and become more globally minded thanks to this technology. Readers now have more information at their fingertips and can access libraries more readily.

Mobile-Based Library Services

A library's reading materials and resources are used to spread useful everyday information to the public, foster lifelong learning, and promote literacy, which are its three basic goals. Mobile libraries enable speedier access to their collection by bringing resources to people who might not otherwise have the chance to use them outside of the library's fixed location. According to Lee (2021), information can also contain Learning

Management System (LMS) software, which offers a framework for managing all facets of the learning process and keeping track of institutional training materials. Moodle is a prime example of the greatest LMS software, while the OPAC mobile app is a benchmark for mobile-based library services.

Intelligent Library Search & Federated Search

Information professionals can get data from numerous content locations using federated search and intelligent library search, which just requires one search query and a single search interface. According to Mukhtar and Maidabino (2021), information professionals use federated search technology because database and electronic resource subscribers wanted to allow library users to search and retrieve resources from various and disparate sources on a single interface regardless of their location, time of day, or format. Like this, Hoque (2023) pointed out that FSE is a piece of software used to simultaneously search multiple library resources, such as books, journals, and databases. The technology helps major libraries swiftly retrieve material and streamlines indexing. This technology is also used by libraries for descriptive cataloging.

Academic Integrity and Plagiarism

Without bringing up academic integrity and plagiarism, any assessment of contemporary trends in library systems will fall short. Plagiarism is the act of using another person's thoughts, words, theories, images, views, or information without giving appropriate credit. Students' academic experiences are compromised when they plagiarize the work of others. As a result, refraining from plagiarism has become imperative. Without a doubt, technology has greatly simplified our lives. A library is not what it was ten years ago. The most recent technology in library systems is always at your fingertips thanks to modern school and corporate library software.

Impact of 4th Industrial Revolution and Collaboration for Effective Dissemination

Increased human productivity is one of the main impacts of fourth industrial revolution as observed in the findings of (Chigwada and Nwaohiri, 2021). With technologies like automation augmenting and artificial intelligent that enable smart choices in formation sharing in library. The 4IR era has affected all types of organizations and libraries were not spared in the process. For information professionals to be relevant in the institutions of higher learning is regarded as the hub of learning, teaching and research should adapt the emerging technologies.

The main change agents in the library because of the 4IR are automation and AI. According to Akpobsah, Mordi, Owoicho, and Omosekejimi (2022), 4IR caused the creation of additional problems including varied users, automation in libraries, embedded librarianship, open science, the usage of social media platforms, and the evolution of librarianship roles. Some librarians are concerned about the revolution because they worry that some types of workers are becoming obsolete and will be replaced by new workers with the necessary abilities or by machines (Chigwada and Nwaohiri, 2021). The millennial generation, generation X, Y, and Z, as well as clients with special needs, should all be able to turn to the librarians for information. Libraries exist now.

Survival in 4IR and Collaboration by Information Professionals

Due to technological advancements, library patrons can now afford and have access to the digital world regardless of place or time. Libraries now provide 24/7 access to information resources both on and off campus, and all users need is an internet connection to take advantage of the amenities. The use of electronic resources has significantly expanded because of the ease with which library services may now be accessed. Due to the 4IR, new goods and services are also being introduced in libraries that improve the effectiveness of library services (Chigwada and Nwaohiri, 2021).

The use of social media platforms for client communication, online reference services, online renewal of print materials, and self-services at circulation points are all necessary for information professionals to survive the 4IR and collaborate as began by Doan and Dang (2021). According to Datta (2022), libraries

allow literate, informed, and participatory societies, thus libraries and information workers will need to rethink and re-plan how they might take advantage of the many opportunities presented by the 4IR era. If we look to the future of literature, we can see that libraries will be reliable information brokers, do more with new technology, provide open access to information and scholarly works, Chigwada and Nwaohiri (2021) asserted that whether it be media or information librarians are already familiar with or new media, preserve and provide access to information in all formats, and do all these things as well as more. The Fourth Industrial Revolution, in which people make their own devices and items, will be promoted, and facilitated by libraries. In the fourth industrial revolution, information technologies and collaboration are essential for libraries to exist. There is a need for information professionals to work on mobile, allowing them to engage with their users more. Professionals should holistically analyze the framework put in place. Diverse technology is now being installed in libraries to achieve Library 4.0 goals. The terms intelligent system, maker's pace, context-aware technology, open source, big data, cloud service, augmented reality, state-of-the-art display, and librarian 4.0 are currently used to define library 4.0.

Challenges of 4IR and Collaboration in University Libraries

To respond to the 4IR, economic and social opportunities and problems must be managed and resolved effectively (Tella, Okojie, Abdullahi and Ajani 2022). This was confirmed by Msauki (2021), who also found that there were persistent financial constraints, insufficient infrastructure, reluctance to change, and a lack of technical capabilities.

Torukwein (2021) asserts that the tools and applications of Industry 4.0 can fundamentally alter society, business, and government. According to the findings of Zervoudi (2020) obstacles faced by developed countries include changing business models, skills gaps, concerns with intellectual property, a need for investment, problems with data, standards, and legal questions of liability.

Changes in the development of the library and information studies curriculum have been made possible by the growth and invention of ICT. Despite the work that its professional bodies have put into creating modular curricula and requests that teaching departments change their syllabus to add more IT components, these efforts have not been successful. According to Nwaohiri and Wosu (2021) explained that LIS schools face difficulties because of a variety of factors, including a lack of adequate teaching resources, practical work that emphasizes ICT, a lack of ICT personnel, a lack of consistency in course content, the proliferation of courses, a lack of budgetary resources, etc. A lack of government investment has resulted in a generally poor level of educational standards and technological training (Atiku & Boateng, 2019).

Way Froward

1. As we reach the fourth era of IR, information professionals should work together and develop a complete action strategy plan to calm any turbulence toward libraries.
2. Information workers need to adapt to chaotic developments and know how to handle them for the librarian to take the strategic activities needed to update the library's services and setting.
3. Information professionals of all ranks should adjust to different organizational behavior patterns in terms of personality differences, management styles, administration cultures, and supervision systems to foster mutual understanding and remove obstacles to a productive workplace.
4. Information professionals need to look at how administrative behavior is changing in response to elements including people, organizational structure, culture, and skill.
5. Information professionals need to promote and instill in their personnel the idea that change is necessary for survival and that it presents excellent opportunities for cooperation and cooperative intelligence. University libraries may decide to pool their information resources for cooperative collection development, preservation, digitalization, and content sharing.
6. Information specialists must also determine whether learning about new organizational structures makes sense rather than sticking with the archaic hierarchy system. Any rank of information professionals should embrace new abilities and knowledge to enhance themselves and change their working methods to conform to the fourth IR trends.

Conclusion

The fourth industrial revolution is essential to many facets of life, including the work that libraries do. It is crucial that libraries and librarians adopt and instill all the knowledge required to collaborate with the 4IR and improve its information service and delivery. To effectively disseminate information in university libraries in Nigeria, this article was able to evaluate the effects of the fourth industrial revolution and the cooperation of information experts. For the sake of their patrons, libraries must have a healthy financial budget to upgrade the technical infrastructure that will enhance both their internal and external services. Training must be provided for the usage of some 4IR technologies, including robotics, artificial intelligence, and 3-D printing, among others.

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PUBLISHING AS A TOOL FOR KNOWLEDGE SHARING AND ITS RELEVANCE TO THE SOCIO-ECONOMIC SECTORS IN NIGERIA

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Abstract
Publishing plays an important role in the development of any nation. It involves the dissemination of information or literature throughvarious publications such as books, periodicals, newspapers,magazines, as well as electronic resources such as websites and blogs which manifests in knowledge acquisition.Publishing is, therefore, relevant in all spheres of societybecause through it, information is made accessible, thereby,providing or enhancing the knowledge that supports theproper functioning and growth of individuals and society as awhole. The aim of this paper, therefore, is to examine therole of publishing on the socio-economic sectors in Nigeria. The paper provided the relevance of book publishing to socio-economic sectors in Nigeria to include; tool of development, cultural basement block, publishing as means of record keeping, publishing as a business and publishing as a source of employment**.** The paper identifiedsome problems encountered in publishing amongst which are finance, government, piracy, infrastructural decay, and lack of technical know-how. Possible solutions to the identified problems were proffered. In conclusion, the significance of the role of publishing in the dissemination of information cannot bedisputed. It is in recognition of this that the publishing industry has become an integral partof the developmental process of the nation.It was recommended among others that government should start evolving development strategies that would end the problem of book piracy and hold pirates fully accountable by bringing them to justice and publishing firms should make it a policy to give their technical staff up-to-date professional trainings to ensure efficiency.

Keywords: Publishing, socio-economic sector, development

Introduction

A book is viewed as a motivator for intellectual development and social integration. The book was defined as a multifaceted, dynamic product and a significant asset of any civilization (Akangbe, 2014). A book is a form of mass communication that encourages the efficient use of other media. It is also a source for national development and integration, the grand index of technology, politics, and government. To name a few, these include economics, sociology, medicine, and engineering (Chartier, 2018).

Because it is impossible to quantify the effects of books on the growth of literacy, a country's level of development can only be loosely correlated with the level of literacy that books foster. Therefore, a developed civilization is one that values books highly, while a developing one values books less.Therefore, the publishing of books contributes significantly to the development of a country. The academic knowledge and views of ancient education giants like Aristotle, Socrates, and Decartes would not have been preserved for future generations had books not been published, but would have been lost to humanity (Oyeyinka, Aganbi, &Adebayo, 2016).

Publishing is a form of communication that has a huge impact on everyone's lives, conveys a lot of the past's cultural heritage, and aids in our understanding of who we are and the world in which we live (Chandler& Palachuk, 2018). Akangbe (2014) referred to publishing as a media of communication that falls under the print media. He further defined publishing elementarily as the profession or business of publishing books. As an important tool for the educational process, publishing serves as a medium of communication and offers amusement to individuals of all ages. With possibly the most publishing houses of any African nation, Nigeria boasts a thriving publishing sector.

Knowledge is a powerful source of organizations. The importance of knowledge for the development oforganizations globally took attention to the researchers in the late 1990s (Mohan, 2019). Knowledge sharing covers knowledge identification, and access to be transferred and applied to solve problems through publishing, so that theorganizational tasks can be done effectively and less costly (Shaari,Rahman, & Rajab, 2014).

Publishing and the Socio-Economic Sector

Book publishing is a serious business, a benchmark of a nation education, one of the basementblock in cultural building and an important index of national development.Publishing plays significant roles on the Social and Economic Sector of the country. Some of these roles include:Publishing as a tool for Development, Publishing as a cultural basement block, Publishing as a means of record keeping, Publishing as a Business and Publishing as a source of employment.

Relevance of Book Publishing to Socio-Economic Sector

1. **Book Publishing as Tool of Development:** Book publishing facilitates literacy through knowledge sharing which in turnfast-tracks national development. Ihebuzor & Ihebuzor(2016)opined that the quality, quantity and diversity of books produced by a society are important indicators ofthat society's level of development, intellectual sophistication, capacity for technologicalinnovation and industriousness.This is an indication that book publishing is an effective vehicle for development andpositive change in the behavioural attitude of the people. Publishing brings about development which is widely participatory process of social change in society intended to bring aboutboth socio and materials advancement
2. **Publishing as a Cultural Basement Block:**Book publishing enhances cultural heritageand values. Culture is described as a way of life of a particular group of people. Customs, tradition,language and arts are its key drivers, its components are subject such as history, political science,philosophy, language, anthropology and others. Publication of books in these academic areas haveallowed our cultural values to thrive systematically (Chowdhury, 2016). The literary works of our known authors likeWole Soyinka, Chinua Achebe, and so onpopularized various Nigeria artifacts, songs and proverbs. These creative works have turned out tobe a medium of instruction used to counsel the young ones today. To cap it up, book publishingnavigate culture towards civilization and it reflects and enhances people's understanding of thecustoms, traditions, norms and values of their given society.

3. **Publishing as a Means of Record Keeping:**Any scholarly work that is published serves as a record for future generations. Books published centuries ago continued to be used as sources of information. For instance, if our oral tradition had been published, the majority of them would have been evaluated and standardized scientifically. Therefore, whatever that is published today forms the book of what becomes the acceptablestandard tomorrow.
4. **Publishing as a Business:** The rise of the country's economy has been greatly aided by the book publishing industry. This is not unconnected with the fact that business ideas are being shared either in print or non-print formats. Publishing is a significant corporate endeavor that promotes the growth of literacy across a variety of disciplines, including science and technology, the humanities, sociology, medicine, law, and politics(Ihebuzor & Ihebuzor, 2016). Of course, it acts as a gauge for the country's socioeconomic development. Because manuscripts have a tendency to be profitable, publishers must turn a profit. As a result, it is critical that they always have financial acumen.Publishers put in a lot of effort with the sponsoring editor, who has to stand before the editorial board of his company and persuade them that a book will be commercially successful before it is released. In addition, the cost of production, the cost of editing, the author's royalties, the cost of promotion, overhead costs, and others should be taken into account. All of these, though, are intended to increase the business's earnings.Publishing is both a profession and a business. It involves the selection, preparation, production, marketing and distribution of print communication materials(Smith, & Bold, 2018).
5. **Book Publishing as a Source of Employment :** The fact that book publishers have not beenglamoriously showcased like their counterparts in the movies industry or any other areas of humanendeavours does not make the industry a toothless bulldog when it comes to gainful employment(Chowdhury, 2016). Book publishing industry provides job opportunities for many younggraduates and professionals who studied related courses. Opportunities such as Publishers,Manuscript acquisition personnel, literary agent editors, Designers, artists, Typographers, Printers, Binders , Marketers , Sales Representatives , Promotion officers , public Relations Officers and ahost of others.

Problems Encountered in Publishing

Scholars of book publishing in Nigeria have come up with some of the challenges that bedeviled the industry.The publishing industry has, over the years, faced many challenges some of which haveproved to be impediments to its survival.Oyeyinka, Aganbi, and Adebayo (2016), Ubogu, (2018), Gora, Yabanet and Odigie (2022) and Haram (2023) have written about these constraints that standas stumbling blocks to the growth of the publishing industry in Nigeria. Rather than abating, the problems aregetting more unbearable and threatening. These include finance, government, piracy, infrastructural decay, and lack of technical know-how.

Finance: Most indigenous publishers in Nigeria are small businesses that lack the resources to invest in quality printing and marketing infrastructure. This makes it difficult for them to compete with larger, better-funded international publishers (Anaekwe, 2023). It is believed that publishing books is a capital-intensive business with low profits. Because of this, most publishers struggle to raise enough money to support their operations. Additionally, financial institutions like banks are typically hesitant to lend publishers money out of concern that they won't make the desired profit or, worse yet, lose the money entirely. This attitude of the financial institutions has diminished the financial stability of the publishers, making operations challenging for them and the turnover not particularly noteworthy.

Government: The government's approach to the development of Nigeria's book publishing sector is uninspiring. Policies for the sector are not being executed effectively; they focus less on providing proper monitoring. The government has not always been recognized as a major force behind or an enabler of the book publishing industry (Oyeyinka, Aganbi, & Adebayo, 2016).

Piracy: Piracy, the unauthorized downloading, publishing or use of works that are copyrighted, is anendemic problem in the book industry. Ubogu (2018) noted that piracy is a problem which affects the entire bookpublishing chain comprising authors, publishers, distributors, retailers, by robbing them ofthe financial benefits of their labour, while buyers and readers are subjected to low qualityproducts. Often, buyers and readers who are subjected to pirated works lose faith in thepublishers which affects the

marketing of such works.

Infrastructural Decay: Generally, the infrastructural standard in Nigeria is in a sorry case and despair. The power sectorwhich is the catalyst of industrial development is in comatose, water has since become an history,roads are in a sympathetic state while the railways are fading out by the day.Today, industrialists have to develop and build their own infrastructure in order to be able to meetup with their consumers' demand.

Lack of Know-How: The publishing industry, as it exists today, suffers a major 'know-how' crisis. Be it in terms of technology, networks, staff, market, information, or access – the lack of proper knowledge, skill, and expertise is literally glaring. To top it, small publishers have very little experience of dealing with domestic or international markets that exist outside their domain. The only credible way to resolve this problem is for SMEs to invest in developing in-house capabilities. In the absence of these, such publishers will only end up flailing through the choppy waters of modern publishing (Haram, 2023).Global changes in book publishing are occurring as a result of technology's transformation of the industry's operations. Because of this, book publication has expanded beyond its historical scope. Production of books is facilitated and accelerated by modern equipment, particularly in industrialized nations. In order for Nigerian publishing companies to compete with the worldwide trend, they urgently need to get current technology. The Nigerian publishing business is suffering from epileptic technology.

Possible Solutions to the Identified Problems

Some possible solutions as put forward by Oyeyinka, Aganbi, and Adebayo (2016), Ubogu, (2018), Gora, Yabanet and Odigie (2022) and Haram (2023 are:

1. Financial issues could be curbed if private investors such as banks, finance houses, and influential individuals participateespecially in terms of massive capital injection into the publishing industry.
2. Government can enforce strong rules on piracy so as to ensure that production is on-going year-in and year-out which will in turn lead to the expansion of the publishing houses as this will lead to more employment of youths to meet the increasing demands for the products of publishing houses.
3. The power sector should be worked on tostabilize power supply and reduce cost of running on other sources of power like the generators, which could reduce noise pollution emanating from the use of power generators.
4. Publishing houses can improve the technical-know-how of staff in the publishing houses by sending them on training as new technologies unfold so as to enable them compete with publishing houses in more advanced countries.

Conclusion

The significance of the role of publishing in the dissemination of information cannot bedisputed. It is in recognition of this that the publishing industry has become an integral partof the developmental process of the nation.By essentially extending the frontiers of knowledge from one generation to the next, book publication serves the primary objective of fostering ongoing intellectual growth. Publishing is used to encourage learning and knowledge expansion. This assumption necessitates that the topic of book publication be treated with greater seriousness than before. The business's stakeholders should work together to provide creative answers to the problems plaguing the sector. It is past time for the Nigerian government to take a page from other countries' book policies, such as those of Britain and the United States of America. The study comes to the conclusion that the industry should be properly regulated and monitored because it has so much to offer in terms of the socioeconomic advancement of the country and the mental development of its citizens.

Recommendations

1. The study recommends that the many stakeholders, including the government, publishers, authors, regulators, bookstores, readers, and others, should work together and each contribute significantly to the development of a robust publishing business.
2. The government should start developing development strategies that would end the problem of book piracy and hold pirates fully accountable by bringing them to justice.

3. Government should charge less import duties on book publishing equipment and accessories inorder to encourage hitch-free importation of any of them.
4. Publishing firms should make it a policy to give their technical staff up-to-date professionaltrainings to ensure efficiency.

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GENDER EFFECT OF CONCEPT-MAPPINGSTRATEGY ON PERFORMANCE OF LOW, MEDIUM AND HIGH ABILITY LEVEL SENIOR SECONDARY SCHOOL STUDENTS IN MATHEMATICS

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Abstract
This study investigatedgender effect of concept-mapping strategy on performanceof Low, Medium and High abilitylevelsenior secondary school students in mathematicsin Zaria Education Zone, Kaduna State. Quasi experimental design involving pre-test and post-testwas used. Sample consisted of 210SSS II students fromfour intact classes in four schools selected by cluster sampling technique. One null hypothesis was formulated to guide the study. Mathematics Performance Test (MPT) with a reliability coefficient of r = 0.65 was used to collect data from the sampled schools. Data collected were analyzed using ANCOVA and Scheffe's test,at $P \leq 0.05$. Result indicated among others thatthe mean performance scores differences in mathematics: between male and female students is not significant; all the three ability level students taught mathematics using concept-mapping strategy improved significantly in mean performance scores against their counterparts taught using lecture method. Based on these findings,it was recommended among others that teachers of mathematics in secondary schools should adopt concept mapping as an instructional strategy to enhance high, medium and low ability level students' performance in mathematics.

KEYWORDS: Concept-Mapping Strategy, Performance, Ability Levels,Gender, Mathematics.

Introduction

The importance of Mathematics to modern culture of science and technology has been well recognized and accepted worldwide(Eguavon, 2002).Science is regarded as a foundation upon which the bulk of the present technological breakthrough is built. Through the application of science, Man is assured the longevity of his existence. Mathematics knowledge is needed for effective learning and development of science concepts. For instance, the relationships between variables in sciences such as volumes, pressure, and temperature are revealed through the use of mathematical concepts (Onwuka&Iweka, 2010). Also, the increasing importance and attention given to mathematics as noted by Eguavon (2002) in Bashir, Abubakar and Garba (2016),stem from the fact that without science there is no modern technology and without modern technology, there is no modern society. In other words, Mathematics is the precursor and queen of science and technology and indispensable single element in modern societal development.

As Mathematics play crucial role in ther modern societal development, there is urgent need for a good output in the Mathematics performance of students. It has been observed that traditional pattern of teaching, a teachers-centered approach with greater emphasis on lecture methoddevoid of meaningful learning in used is not able to sustain the development of children in mathematics, especially in secondary school education. Nevertheless, the Nigeria National Policy on Education (FME, 2013) stipulated that education activities shall be learner centered for maximum self-development and self-fulfillment. The neglect of this policy stipulation as noted by Eze(2008),had been identified as a major reason for the problems in secondary school mathematics education andthis resort to persistence learning by rote and memorization of mathematical facts.

Various researchers identified different methods that will address this problem. One of such method is the use of concept mapping. This method is predicated on Ausubel's assimilation theory of cognitive learning, which places emphasis on the fact that,'learning new knowledge is dependent on what is already known. It upholds that new knowledge is gain when it can be largely related to a framework of existing knowledge

rather than being processed and stored in isolation' (Ausubel, 1963). Concept mappingwas developed by Novak (1972) and the members of his research group as a means of representing frameworks for the interrelationships between concepts and as an instructional strategy to facilitate meaningful learning.By using concept mappings, the learning process becomes active rather than passive (Danmole& Adeoye, 2004).

Concept-mapping strategy according to Novak and Godwin (1984)inBashir, Abubakar and Garba (2016)is a schematic device used to present concepts or knowledge meaning embedded in a framework of propositions. It is a technique used to represent the relationships among concepts in a two-dimensional graph. This is done by linking a central concept to other ones which help the learners understand the central concept better. The construction of concept mapping involves: focusing on a theme and then identify related key words or phrases; ranking the concepts (key words) from the most abstract and inclusive to the most concrete and specific; clustering concepts that function at similar level of abstraction and those that interrelate; arranging concepts into a diagrammatic representation; linking concepts with linking lines and label each line with a proposition. Concept mapping activities in mathematics as carried out in this study were in line with these steps. Based on the foregoing, this study is designed to investigate whether the use of concept mapping strategy would improve significantly low, medium and high ability level male and female students'academic performance in mathematics at senior secondary school level better than the the use of conventional lecture method.

Academic Performance according to Uba (2000) in Idris (2020) is about knowledge and skills possessed by an individual as a result of instruction or specific curricular that has been administered. It is a quantitative indication of the positive result of behaviour accruing from the study of school subjects. Concept-mapping strategy has been seen to improve students' academic performance (Awofila, 2011&Adaramola, 2012). But on the contrary, it was not (Ajaja, 2011). This study determined whether or not concept mapping strategy could improve academic performance of SSIImale and female students of different ability levels in the study of mathematics.

The classification of students into categories based on their performance in mathematical task is the ability levels. The indices of such categorization are students' scores obtained from test or examination in mathematics. Talca (2007) in Idris (2020), identified three types of ability levels in relation to teaching-learning situationusing students' previoustest scores as index of categorization viz: the low ability level learners whose test score ranges from 0 to 49; medium ability level learners who have their test score ranges from 50 to 64; high ability level learners whose test scores ranges from 65 to 100. The current study examined gender effect of concept-mapping strategy on performance of senior secondary school students of different ability levels when taught mathematics compare to those taught with lecture method using Talca's model of classification of students into ability levels.

Literature reviewed so far on gender issue is still a controversy. Mathematics performance is in favour of male students in some studies while in others the reverse is the case.Most of the past studies have shown females following behind males in terms of the amount of mathematics studied and achievement in mathematics. However, it has been observed that female students are not totally under-privilege in the study of mathematics to the extent that they performed better than male students in numeracy and mathematics tasks or problems with well defined procedures. This revelation have council the idea that mathematics as subject is a male domain. It is now a clear fact that it is a subject where both male and female students have their measured areas of excellence. According to the study of Kolawole in Farajimakin (2007) on gender in relation to mathematics performance in Ekiti State, girls in federal government colleges are performing better than boys in numeracy and other mathematical skills. In studies conducted by Hanna (2010) on the sixth, eighth, tenth and twelfth grade, it was found that for girls, viewing mathematics as male domain affects their mathematics performance and girls in single sex schools, who did not see mathematics as an exclusive male domain tended to have higher mathematics success. More so, Friedman (2010) revealed that in the country and higher socioeconomic status suburbs, females out-performed their male counterparts. In contradiction to this finding, Bassey, Joshua and Asim (2010) in their study concluded that rural male students performed significantly better in mathematics than female students in Nigeria. However Awofobaju (2006) in his study onthe effect of concept mapping-strategy on Junior Secondary School Students' achievementfound out that the mean performance score diference between male and female students taught with concept-mapping strategy was significantbut on the contrary it was not as indicated by the study of 1dris (2017) which revealed that no significant difference exist between the mean performance score of male and female students taught with concept-mapping strategy. The current study takes gender issue to a more crucial area which is students' ability level by trying to find out which of

the sex (male or female) in each of the identified students' ability level (low, medium and high) perform better in mathematics when exposed to concept mapping strategy and also in comparison to those taught with lecture method.

Objectives of the Study

This study was design todetermine the gender effect of concept-mapping strategy on academic performance (if any) among SS II secondary school students of low, medium and high ability level students when compared to those taughtwith lecture method in mathematics.

Research Question

Theresearch question wasraised to guide the study:

RQ_1:What effect does concept mapping strategy has on academic performance in mathematicsamong low, medium and high ability level male and female students when compare to those taught using lecture method?

Null Hypothesis

Thenull hypothesis was formulated for testing at 0.05 levels of significance:

Ho_1:There are no significant differences in the mean performance score in mathematicsamong low, medium and high ability level male and female students exposed to concept mapping strategy and those taughtusing lecture method.

Methodology

The study used quasi-experimental approachthat assigned intact classes to experimental and control groups. It adopted experimental-control group design involvingpre-test, and post-test in which the sample was divided into two groups, experimental group that received Concept-Mapping Strategy (CMS) as treatment andcontrol group taught with lecture method. Each of the two groups contain the low, medium and high ability level subjects.A pretest was administeredto experimental and control groupsin order to determine the equivalency of the groups in terms of their performance in mathematicsbefore the treatment. At the end of the treatment period, a posttest was administered to the two groups to determine the effect of the treatment on the performance of the subjects in mathematicsin various ability levels on gender bases.

The target population of this study consisted of all the Senior Secondary two (SSII) students which had a population of6,847(4,063males and 2,784 females) from 35 established public senior secondary schools in Zaria Education Zone for 2021/2022 academic session. Cluster sample technique was used to selectsample for the study. This involved fourintact arm of classes from four schools randomly selected from 35schools in the education zone.From the average scores of students in their SSI first, second and third term mathematics examination, using Talca (2007) categorization of students into ability level, students with scores from 0 to 49 in each of the four arms of classes were placed as low ability level, those with scores from 50 to 64 as medium ability level and those with scores from 65 to 100 as high ability level. The four selected intact arms of classes were assigned randomly into experimental and control groups. The two arms that made up the experimental sample (N=109) consist of 19 high ability level students, 38 medium ability level students and 52 low ability level students. The two arms that made up the control sample (N=101) consist of 20 high ability level students, 32 medium ability levelstudents and 49 low ability level students. This give a total sample size (N=210) which is viable for this study in line with Tuckman (1975) and Sambo (2008) who proposeda sample size of minimum of 30 subjects for experimental study.

Data collection was through the use of a 40-item multiple-choice objective test questions with one key and four distracters tagged Mathemaics Performance Test (MPT) used for both pre-test and posttest. The two instruments MPT pre-test, MPT posttest included the same items with some variations in numbering and wording and the options interchanged. Table of specification based on the topics selected for the study was constructed for the development of this instrument and marking scheme was used for scoring the test. To score the students' responses to each question in MPT, two and half ($2\frac{1}{2}$) marks were given to correct response while zero (0) awarded for incorrect or no responses. The content of the instruments were assessed and corrected by two mathematics educators (Lecturers) who are professors in mathematics education from science education department and a specialist in English Language from English department, all from Ahmadu Bello University Zaria. Final copy of the instrumentss were produced with strict adherence to the observation made by the experts. The reliability coefficient of the instrument was 0.65 using test retest method.

Two instructional strategies were used for the treatment administration processes which are Concept-Mapping Strategy (CMS) and Lecture Method. The Concept-Mapping Strategy (CMS) which was an adoption of Hall (2011) concept mapping model was used to teach experimental group on some selected mathematics concepts considered to be difficult to students in the WAEC chief examiner's report 2021

such as: quadratic equation, surds,latitude and longitude and probability. This was done for a period of three weeks of 90 minutes lessons twice daily using Yin, Vanides, Ruiz- Primo, Ayala and Shavelson (2005) model of implementing concept mapping activities in the classroom which include the following steps as presented in appendix 1.The control groups were also taught the same concepts by the researcher using lecture method for a period of three weeks of 90 minute lectures twice daily. However, descriptive statistics (mean and standard deviation) were used to analyze data to answer the research question whileinferential statistics ANCOVAandScheffe'sTeswere used to analyze data to testthe formulated null hypothesis Ho_1at 0.05 level of significance.This is because the data collected in respect of it were interval data.

Pesentation of Result

The data obtained from the study were analyzed usingversion 20 of the Statistical Packages for Social Sciences (SPSS) as follow:

RQ_1:What effect does concept-mapping strategy has on academic performance in mathematicsamong low, medium and high ability level male and female students when compare to those taught using lecture method?

To answer the research question,mean and standard deviation were used to analysestudents' postteset scores as presented in Tables1.

Table 1: Posttest Mean Performance Score and Standard Deviation of Low, Medium and High Ability Level Male and Female Students in Experimental and Control Groups

Ability level	Group	Gender	N	Mean ($\bar{x}$)	SD	Mean Diff
High	Experimental	Male	8	45.94	2.12	-0.69
		Female	11	46.63	2.74	
Total	**19**	**46.28**	**2.43**	**10.27**		
Control		Male	12	36.54	1.55	1.06
		Female	8	35.48	3.03	
Total	**20**	**36.01**		**2.29**		
Medium	Experimental	Male	20	26.14	3.27	-0.90
		Female	18	27.04	1.91	
Total	**38**	**26.59**	**2.59**	**8.85**		
Control		Male	15	18.65	2.09	1.81
		Female	17	16.84	2.30	
Total	**32**	**17.74**	**2.20**			
Low	Experimental	Male	27	22.88	5.79	1.08
		Female	25	21.80	6.21	
Total	**52**	**22.34**	**6.00**	**9.26**		
Control		Male	25	12.36	5.92	-1.45
		Female	24	13.81	5.90	
Total	**49**	**13.08**	**5.91**			
	Grand Total		**210**			

The mean performance score differences (-0.69) and (-0.90) between male and female students in experimental group high ability level and also in experimental group mediumability levelrespectivelyas presented in Table 1 were infavour of female students except in experimental group low ability levelwhere difference (1.08)was infavouredof male students. This implies that female students in both high and medium ability levels in experimental group were ahead of their male counterpars in performance while male students in experimental group were ahead in low ability level. Furthermore, the control grouphigh ability level maleand femle students'mean score differed by (1.06) in favourof male students and also between control group male and female students in medium ability level which differed by (1.81)in favour of male students, but in control group male and female students in low ability level, the mean score differed by (-1.45) in favour of the female students.It then follows that male students in both high and medium ability levels in control group were ahead of their female counterparts in performance while the female students were ahead in low ability level.However, it was observed thatthe mean performance score:of experimental group high ability level students was 46.28 and that of control group high ability level

studentswas 36.01 with differencrce of 10.27 in favour of experimental group high ability level students; that of experimental group medium ability level students was 26.59 and control group medium ability level students was 17.74 with differencrce of 8.85 in favour of experimental group medium ability level students; also, that of experimental group low ability level students was 22.34 and the control group low ability level students was 13.08 with differencrce of 9.26 in favour of experimental group low ability level. This showed thateach of the three ability level students in experimental group performed higher than their control group counterparts. In order toestablish if the differences are statistically significant, inferential statistics was used to test the null hypothesis.It was also noted that the experimental group low ability level students obtained higher mean performed score22.34over the control group medium ability level students with mean score 17.74.

To test the formulated null hypothesis, Analysis of Covariance (ANCOVA) was used as presented in Tables2.

$\mathbf{H_{01}}$**:** There are no significant differences in the mean performance score in mathematicsamong low, medium and high ability level male and female students exposed to concept- mapping strategy andthose taught using lecture method

Table 2: Analysis of Covariance (ANCOVA) of Male and female Students' Post-testMean Performance ScoreinMathematics with respect to Ability Levels and Group

Source	SS	df	MS	F-value	P-value	Remark
~~Pre-test~~	~~1023.416~~	~~1~~	~~1023.416~~	~~1.34~~	~~0.174~~	~~**~~
Ability level	7412.311	2	3706.156	4.66	0.003	*
Gender	1091.767	1	1091.767	1.37	0.412	**
Group	19350.353	1	19350.353	24.32	0.027	*
Ability level X Gender X Group	5847.517	2	2923.758	3.67	0.018	*
Error	185375.732	202	795.604			
Total	3102081.000	209				

* Significant at ~~$P < 0.05$~~ ** Not Significant at ~~$P \geq 0.05$~~

The result in Table 2 showed nosignificant difference $P = 0.412 > 0.05$ and significant differences $P = 0.003 < 0.05,\ P = 0.027 < 0.05,\ P = 0.018 < 0.05$ respectively.

These imply that the mean performance scores differences in mathematics between male and female students was not significant.and there were significant mean performance scores differences in mathematics: among low, medium and high ability level students; between students in experimental and control group and in ability levels-gender-group interaction.The null hypothesis $\mathbf{H_{01}}$is therefore rejected.To further identify where signicant differences realy exist, post hoc Scheffe's Test was used to analyze the collected data as presented in Table 3.

Table 3: Multiple Comparison of Post-test Mean Performance Scores of Low, Medium and High Ability Level Students in Experimental (E) and Control (C) Groups

(I) Ability levels	(J)Ability levels	Mean Difference (I-J)	Std. Error	P-value	Remark
High Ability C		10.27*	1.325	.013	*
Medium Ability E		19.69*	1.141	.024	*
High Ability E	Medium Ability C	28.54*	1.120	.012	*
Low Ability E		23.94*	1.231	.005	*
Low Ability C		33.20*	0.105	.021	*
High Ability E		-10.27*	1.325	.013	*
Medium Ability E		9.42*	0.316	.187	*
High Ability C	Medium Ability C	18.27*	1.250	.001	*
Low Ability E		13.67*	0.013	.003	*
Low Ability C		22.93*	1.118	.002	*
High Ability E		-19.69*	1.141	.024	*
High Ability C		-9.42	0.316	.187	*
Medium Ability E	Medium Ability C	8.85*	1.043	.001	*
Low Ability E		4.25*	0.570	.023	*
Low Ability C		13.51*	0.821	.004	*
High Ability E		-28.54*	1.120	.012	*

High Ability C	-18.27*	1.250	.001	*
Medium Ability C	Medium Ability E	-8.85*	1.043	.001*
Low Ability E	-4.600728	.175**		
Low Ability C	4.66*	0.861.011	*	
High Ability E	-23.94*	1.231	.005*	
High Ability C	-13.67*	0.013	.003	*
Low Ability E	Medium Ability E	-4.25*	0.570.023*	
Medium Ability C	4.600.728	.175**		
Low Ability C	9.26*	1.359.001	*	
High Ability E	-33.20*	0.105.021*		
High Ability C	-22.93*	1.118	.002*	
Low Ability C	Medium Ability E	-13.51*	0.821	.004*
Medium Ability C	- 4.66*	0.861.011	*	
Low Ability E	-9.26*	1.359.001*		

* Significant at $P < 0.05$** Not Significant at $P \geq 0.05$

The multiple comparisons in the Post Hoc analysis in Table 3 showed that significant differences in students mean performance scores do not exist in the experimental group low ability level andcontrol group medium ability level students, the calculated P value being greater than 0.05 alpha levels. However, in each of all other pair of the multiple comparisons, the calculated P value is less than 0.05 alpha levels. This implies that there exist significant difference in students mean performance scores between each of the pair.

Discussions

The result of the studyas presented in Table 2 showed that concept-mapping strategywasgender sensitive in terms of students' performance in Mathematics.The no significant performance score difference in Mathematics between male and female students suggests that concept-mapping strategy has a considerable effect on gender differences in mathematics performance.This is inconsistent with results obtained in studies such as Awofobaju (2006)but corroborate with that of Idris (2017) which surport the assertion of the effectiveness of concept-mapping strategy in bridging the gender gap between male and female students in mathematics performance.

Also, it was revealed that the students in experimental group involved in concept mapping were found to perform significantly higher than their control group counterparts in mathematics in the post test as presented in the result in Table 2. This mightbe due to activities involved in concept-mapping that make learning meaningful. The result isat variance with the finding of the study of Ajaja(2011) but in accord with the findings of previous studies such asAwofila(2011) and Adaramola (2012)which provided evidence attesting to the improved academic performance using concept-mapping as strategy for teaching.

Fuerthermore, the significant difference in the mean performance score in mathematics was established between high, medium and low ability level students in experimental group as revealed in Table 2 confirmed by scheffe's test in table 3 where significant difference were establishedinfavour of higher ability levels as follows.Between: High ability level E and Medium ability level E;High ability level E and Low ability level E; Medium abilitylevel E and Low ability level E, where E implied students in experimental group. These imply that concept-mapping treatment has no capability to bridge the already existing ability level gap in performance among the three ability level students taught with concept-mapping strategy. This findingdisagree with the study of Lakpini(2005) but in accord with that ofIdris (2020) which produced similar results.

Moreover, the established significant performance score difference in mathematics on ability level-gender-group interaction as presented in Table 2 implied that concept-mapping is sensitive to ability level-gender-group interaction on students' performance.The post hoc Scheffe's Test wasfurther used to analyze the collected data as presented in Table 3to identify where signicant differences realy exist in interaction among ability level, gender and group.Consequently, it was revealed that there exist significant difference in performance in mathematics(in pairwise comparison) as follows between: experimental group High ability leveland control group High ability levelstudents in favour of experimental group High ability level students;experimental groupMedium ability level and control group Medium ability level students in favour of experimental group Medium ability level students;experimental group

Low ability level and control group Low ability level students in favour of experimental Low ability level students.Theresults show that Students in each ability level in experimental group performed significantly higher than their counterparts in the control group. This was occasioned byactive participation of students involved in concept-mapping strategy that was lacked in lecture method.The findings is inconsistent with the study ofOkebukola (2007)but support that of Idris (2020) that revealed the same results.

The post hoc Scheffe's Test analysisalso revealed that there is no significant mean performance score difference in mathematics between subjects in experimental groupLow ability level and those in control group Medium ability level. Thisfinding show that the meaningful learning activities involved in concept-mapping was ablebridge the ability level gap in mathematics performance between low ability level students in experimental groupand medium ability level students in control group. This finding contradicts the study of Lakpini(2005) but corroborates similar results such as Idris(2020), attesting to the capacity of concept-mapping strategy in bridging the gap between students of a lower ability level taught with concept-mapping as a treatment and those of a higher ability level taught with lecture method .

Conclusions

From the findings of the study, it was concluded that Concept-mapping strategy:enhance gender equality in mathematics performance; give students in the treatmet group the ability to perform significantly higher than their couterparts in control group;paved way for studenrs in each ability level in experimental group to perform significantly higher than their counterparts in control group; has no capability to bridge the already existing ability level gap in performance among high, medium and low ability level subjects in experimental group and is potentially viable in giving the experimentallow ability level students the ability to perform better than the control group medium ability level students.

Recommendations

The result of this study gave rise to the following recommendations:

1. Teachers of mathematics in secondary schools should adopt concept mapping as an instructional strategy to enhance high, medium and low ability level students' performance in mathematics.
2. Concept mapping instructional strategy shouldbe included in mathematics pedagogy of teacher training institutions to ensure training of pre-service mathematics teacher on the use of concept mapping strategy.
3. Mathematics teachers in secondary schools should encourage their students to learn the process of concept mapping as this would enhanced their performance in the study of mathematics.
4. Authors of secondary school Mathematics textbooks should present the content and concepts alongside the worked examples using concept mapping

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Apendix 1

Model of Implementing Concept-Mapping Activities in the Classroom

Step 1— Introduction: Train the students if they have never created an open-ended type of concept mapping. The researcher drilled the students on how to construct concept mapping on a practice topic they are quite familiar with as they have never engaged in concept mapping construction. They were then given time to practice the construction of concept mappings on their own using a concept list related to the material taught in class provided by the teacher.

Step 2— Students Activity Using Hierarchical Concept Mapping:

Activity I: Ask students to create their own individual mappings on the topic under discussion first using hierarchical model. This is to elicit the personal understanding of each student.

Activity 2: Organize students into small groups to discuss their individual concept mapping and have students share their concept mappings with partners, find similarities and differences in their mappings and

try to reconcile them into a single mapping. These made them to articulate their thoughts and learn from each other.

Activity 3: Let the small group concept mappings be discussed in a whole class. This is done by asking the representative of each group to present and explain their concept mappings to the whole class. A whole-class mapping was created based on these discussions to document class progress. This was compared to the one constructed by the teacher on the topic such as the one presented in the appendix to widen the students' scope of understanding.

Step 3—Evaluation: Ask students questions on the lesson taught to know the students' level of understanding and get feedback on the level of attainment of lesson objectives

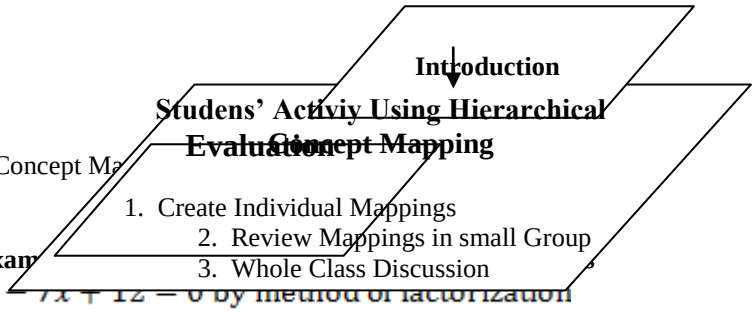
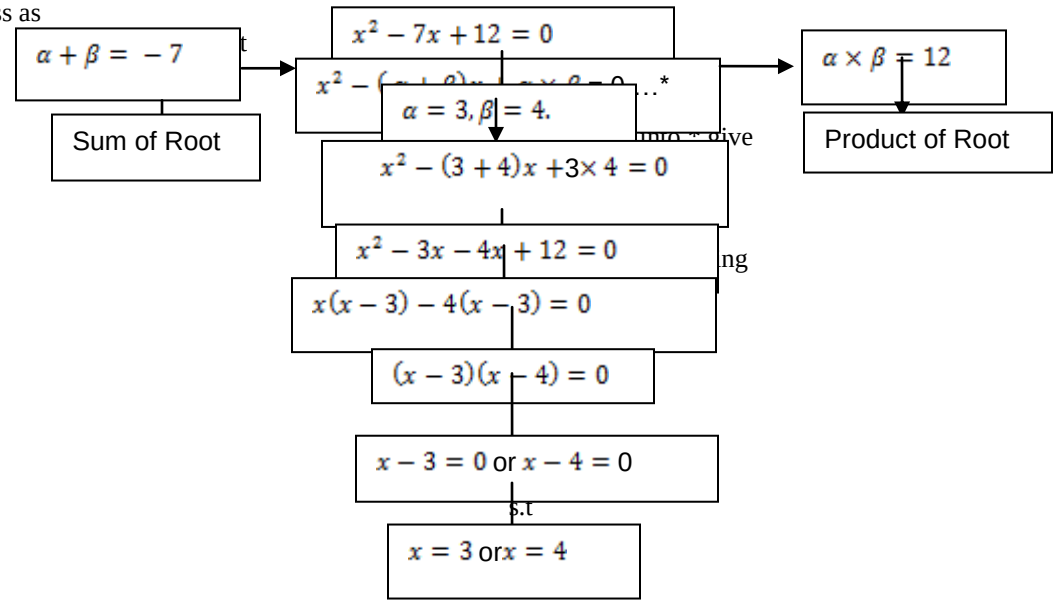


Figure 1: Flow Chart of Concept Ma

Exam

1. Solve the equation $x^2 - 7x + 12 = 0$ by method of factorization

Express as



EFFECTS OF CHALLENGES OF PUBLIC LIBRARY ON QUALITY INFORMATION SERVICE PROVISION IN BIDA BRANCH OF NIGER STATE LIBRARY BOARD

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Abstract
This paper is a study conducted on "Effects of Challenges of Public Library on Quality Information Service Provision in Bida Branch of Niger State Library Board". The study is guided by two research objectives and questions that sought response to identify effects of challenges of public library on quality information service provision and ways to overcome the identified challenges of in order to improve quality information service provision. Research design adopted for the study was survey design. The population was made up of ten (10) staff. Sample size for the study was ten (10) participants; Krejcie & Morgan (1970) table was used to get the sample size. Hence, total enumeration of the respondents. Questionnaire was used as instrument for data collection. Ten (10) copies of questionnaire were administered, filled, returned and found useful for analysis. The data collected were analysed using simple percentages, tables and frequency count for presenting the findings. The findings show that there is inadequate financial allocation, ***insufficient ICT infrastructure, unqualified library staff, poor conditions of service, lack of prospects for further study and*** *poor library patronage. Based on the findings, to improve quality information service provision and library patronage, these recommendations are made among others: management of Bida branch public library should join library consortium to enable resource sharing, state government should make provision for further study, training and retraining of staff particularly in the area of ICT. Means of transportation should be provided to the library for outreach services, and qualified personnel should be employed.*
Key words: Public Library, Information Service, Challenges

Introduction

Libraries are an information service enterprise, established for access and utilization of its information resources by certain or unique patrons. Academic library is for staff, students and members of community of a higher institution of learning, school library is either for primary pupils or secondary school students and teachers, special library is for specialized group of users in a peculiar organizations such as medical institutions, law firms, Banks, National Assembly etc., national library is for a nation, serving all kinds of purpose accordingly and of course the public library which is the focus of this paper, serves a community of its location constituting all category of users, it is often refer to, as "Peoples' University". According to Chioma & Nneka (2021), public library is considered to be a place of refuge for all, including the non-literates in the community. Generally, public libraries are accepted as public goods, library for all and a layman's University.Traditional means of service delivery has a hands-on shift from the past in all type of libraries. A more proactive and pragmatic approach to librarianship has changed the face of library service worldwide. This change in libraries is a respecter of Ranganathan's fifth law of Library Science (1931) "the library is a growing organism". Burke (2018) stated that public libraries are established to be used by members of a community. However, it is of essence to note that the usual ways libraries are used have changed over time, especially in response to changes in technology and community needs. In recent decades libraries have expanded the range of their services while retaining the sentiment that the purpose of a public library, including its collections, facilities, and other resources, is to be used. More than ever, librarians take pains to show that libraries offer more to the public than traditional access and lending services. In an effort to move along this trend, public libraries especially in this part of the world are faced

with different challenges such as paucity of financial allocation, insufficient ICT infrastructure, ICT unskilled personnel, lack of job motivation and satisfaction, lack of opportunity for workshop and further studies, insecurity, inadequate conducive environment, lack of community cooperation, absence of professional personnel, non-strategic library location, lack of means of official transportation etc. These challenges negatively affect quality information service provision among public libraries and as such have to be addressed properly in order to position our public libraries especially, to effectively deliver their mandate of information service delivery for the benefit of their host communities. It is of essence to state that staff in public libraries must also, equip themselves with a wide range of personal and transferable skills in order to manage today's changing environment. The fact remains that staff in public libraries must accept the challenge of digital world, growth in information explosion and users' need, emergence of closed and open source information resources, dwindling financial system, emerging research, teaching and learning environment and increasing apatite of the user communities for value added information to works, personal engagement and development. This paper focused specifically on Bida Branch Public Library in Niger State, which historically is said to be the oldest library in the State. It was established in 1963 by the Northern Regional Government of Sir Ahmadu Bello (Sardauna of Sokoto). It was later inherited from the North Western State by Niger State Government in 1976 after its creation or carved out from Sokoto (Garin Shehu). The library serves generality of the Bida people and its environs; it is located in Bida town along Esso- Lonchita-Umaru Majigi-Federal Polytechnic, Bida road. The library was recently rehabilitated and reorganized; before however, it used to house two major sections, where the first one contains reference materials, although now converted to computer training unit, while the second one was a general reading room, but now converted to E-library and children reading room. The library also accommodates Nigeria Identity Management branch office.

Statement of Problem

Despite the role of public libraries in our society, it is obvious that they are not adequately recognized and catered for. For instance, in different studies by (Linda & Adaora 2016) and (Muhammad, Mohammed, Abubakar, Abdullahi & Jibril 2018),it isestablished that users make less use of public library facilities because of challenges in providing access to information demands of users. They further stated that information resources ofpublic library, especially, the Minna branch; are under-utilized or not regularly patronized.The Bida branch of Niger State public library was recently rehabilitated and reorganized. However, the researcher observed that the purpose of public library to provide adequate information services to individuals and social groups in the community is rarely feasible as a result of certain challenges. It is in view of the foregoing, that this study seeks to investigate effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board.

Objectives of the Study

The general objective of this study is to investigate effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board. To achieve the study's general objective, the following specific objectives were put up, to:

1. Determine effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board.
2. Determine ways to overcome effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board.

Research Questions

In a way to address the research problem, the following research questions are of essence.

1. What are the effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?
2. What are the ways to overcome effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?

Literature Review

Worldwide, public library establishment is to serve the purpose of society or community development through the provision of print and non-print information materials for users' quest for research, education, information, learning, recreation, leisure and cultural activities. Public library according to Anie (2014) is a public establishment owned and funded by public funds, of which services are free to its users irrespective of age, race, sex, profession, status etc. public library provides for the reading interest of different categories of users in a community. The 1953 seminar of UNESCO(United Nations Educational, Scientific and Cultural Oganization) set out the objectives of public library as:

1. To support and reinforce programmes of adult and fundamental education.

2. To provide effective services for children and young people including requisite services for schools.
3. To provide needed information and reference service.
4. To promote and stimulate reading for pleasure and recreation.
5. To provide, whenever needed, language groups in order to ensure availability of resources on equal terms to all members of the community.

It is true that public libraries are established to provide information services to its host community.Dodo, Weiribagba & Oweipere (2022) stated that public libraries formed the structure and foundation of education, learning, entertainment, as well as public enlightenment at the early stage of Nigeria's development. Historically, libraries were first subscription based in Nigeria, and as at then, only the privileged few could have access to the resources. Public libraries are uniquely positioned and well thought of, to remove barriers that stand against access to information by the common people as compared to the rich or well-to-do in the society. Hence, public libraries should not concentrate on those services the literates stand to benefit from only, such as lending services, internet services, readers' advisory services, reference services etc., but should also include those innovative services that non-literates will also benefit from such as learning new skills, etc.

Public library, of course is meant for different user categories in the community including medical practitioners, students, teachers, persons with special need, business men, etc. IFLA/UNESCO guidelines for development (2001) stated that users of public libraries include children, young adults, adults, and people with special needs such as those who have hearing problems and even the blind and the visuallyimpaired. Haven identified users of public library; it is evident that to cater for this different category of users, challenges to the establishment need to be holistically contained. Emphasis should especially be placed on meeting the needs of the less privileged in the society, e.g. public libraries need to provide braille materials for the blind users. As vital as the role public library plays to community and national development, according to Linda &Adaora (2016) is a thing of surprise that most of its objectives are yet to be met due to several challenges even after many years of its existence in Nigeria. According to Smith (2020) lack of regard for public library and what it offers to a community can be seen in the ongoing low levels of funding for public library services.It can be conveniently concluded based on the reviews of the study that public libraries despite its role for community and national development, face many challenges like non-qualified staff, lack of staff training and development, poor building structure, poor user patronage, insufficient or lack of subscription to current technologies, insufficient state government attention, and obvious community neglect; hence, affects quality information service provision.

Methodology

Descriptive survey design was considered relevant and suitable for the study, hence, used. Questionnaire was used as the research instrument to elicit response from staff of the Bida Branch of Niger State Library Board; on the effects of the challenges of public library on quality information service provision in Bida branch of Niger State library board. The staff population was ten (10), Krejcie & Morgan (1970) sample size table was used to arrive at sample size of ten participants or respondents; hence total enumeration. Ten copies of the research instrument were administered and were all retrieved and found useful for the study. Gathered data were analysed using simple percentages, tables and frequency count in order to provide convincing answers to the research questions.

Results and Discussion

Demographic Variables

Table 1: Distribution of Respondents by qualification, professional category, gender and year of working experience.(N=10)

Variable	**Items**	**Frequency (f)**	**Percentage (%)**
Qualification	Primary School Cert	-	-
	SSCE	1	10%
	Diploma	7	70%
	ND LIS	1	10%
	HND LIS	-	-
	BLIS	1	10%
	MLIS	-	-
	Ph.D	-	-

	Total	**10**	**100%**
Professional Category	Professional	1	10%
	Non Professional	-	-
	Para-Professional	8	80%
	Support Staff	1	10%
	Total	**10**	**100%**
Gender	Male	8	80%
	Female	2	20%
	Other	-	-
	Total	**10**	**100%**
Years of Working Experience	1-5	-	-
	6-10	-	-
	11-15	2	20%
	16-20	4	40%
	21-25	4	40%
	26 and above	-	-
	Total	**10**	**100%**

Table 1 shows distribution of respondents according to their qualifications, professional category, gender and years of working experience. The result shows that, of the 10 (100%) respondents, 1(10%) has first degree, 7(70%) have Diploma, 1(10%) has national diploma and only 1(10%) has SSCE. Also, on professional category of the respondents, it shows that only 1(10%)is a professional, 80(80%) of the respondents are para- professiona and only 1(10%)is a support staff. Of the 10(100%) respondents,8(80%)are male and 2(20%) are female. Meanwhile, considering year of experience of the respondents, 2(20%) have been in service for 11-15 years, 4(40%) have been in service for 16-20 years and 4(40%) have been in service for 21-25 years. From the result, it is indicated that for qualification, majority of the respondents have low qualifications,where almost all were para-professional. Result also shows that majority of the respondents were male and have been in active service for 16-25 years.

Research Question 1: What are the effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?

Table 2: Effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board.

S/N	**ITEMS**	**SA**	**A**	**N**	**D**	**SD**
1	**Inadequate financial allocation affects library's collection development, hence, hinders quality information service provision.**	6 60%	4 40%	- 0%	- 0%	- 0%
2	**Insufficient ICT infrastructure and staff with ICT Skills lead to poor library information service delivery.**	5 50%	5 50%	- 0%	- 0%	- 0%
3	**Lack of staff motivation and job satisfaction affect quality and effective service input and delivery; hence, discouraged library patronage.**	1 10%	9 90%	- 0%	- 0%	- 0%
4	Lack of opportunity for workshop training/conferences/seminars and further studies **affects staff morale and quality information service provision.**	7 70%	3 30%	- 0%	- 0%	- 0%
5	Lack of professional and para-professional staff in the library affects quality information service delivery to the community.	5 50%	5 50%	- 0%	- 0%	- 0%
6	Location of the library does not encourage patronage; hence, physical books remain unused by the community for long time.	- 0%	10 100%	- 0%	- 0%	- 0%
7	Lack of befitting office accommodation affects quality information service delivery for community's benefit.	- 0%	10 100%	- 0%	- 0%	- 0%

8	Lack of official means of transportation hinders library outreach information services to the community.	8 80%	2 20%	- 0%	- 0%	- 0%
9	Lack of community cooperation on library service sensitization discouraged further efforts by the library staff.	1 10%	9 90%	- 0%	- 0%	- 0%
10	Insecurity in the community is abound and therefore made the library vulnerable to provide effective information service for community's advantage.	4 40%	6 60%	- 0%	- 0%	- 0%

Table 2describesEffects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board. Base on the table, there are ten items also, where respondents shows their agreement or disagreement on the items listed. The items are ranked based on five point scale of: SA-Strongly Agree "5", A-Agree "4", N-Neutral "3", D-Disagree "2" and SD-Strongly Disagree "1". For item one, inadequate financial allocation affects library's collection development, hence, hinders quality information service delivery; of the 10(100%) respondents, 6(60%) strongly agreed while 4(40%)only agreed. **Insufficient ICT infrastructure and staff with ICT Skills lead to poor library information service delivery; on this research item, 5(50%) strongly agreed, while 5(50%) agreed. 1(10%) of the respondents strongly agreed that lack of staff motivation and job satisfaction affect quality and effective service input and delivery; hence, discouraged library patronage, while 9(90%) also agreed. On** lack of opportunity for workshop training/conferences/seminars and further studies **affects staff morale and quality information service provision; 7(70%) strongly agreed while 3(30%) of the respondents also agreed. Meanwhile, 5(50%) of the respondents strongly agreed that** lack of professional and para-professional staff in the library affects quality information service delivery to the community, while 5(50%) too, indeed agreed. 10(100%) of the respondents agreed that location of the library does not encourage patronage; hence, physical books remain unused by the community for long time. The table also shows that all the respondents 10(100%) agreed that lack of befitting office accommodation affects quality information service delivery for community's benefit. Lack of official means of transportation hinders library outreach information services to the community; to this item, 8(80%) of the respondents strongly agreed while 2(20%) also agreed. The table also indicated that 1(10%) of the respondents strongly agreed that lack of community cooperation on library service sensitization discouraged further efforts by the library staff, while 9(90%) also agreed to it. The last item on this construct - insecurity in the community is abound and therefore made the library vulnerable to provide effective information service for community's advantage, 4(40%) strongly agreed and 6(60%) of the respondents also agreed to it.

Research Question 2:What are the ways to overcome effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?

Table 3: Ways to overcome effects of challenges of public library on quality information service in Bida branch of Niger State Library Board?

S/N	**ITEM**	**SA**	**A**	**N**	**D**	**SD**
1	**Inadequate financial allocation that affects library's collection development should be holistically addressed by the government and all other stake holders in the community.**	9 90%	1 10%	- 0%	- 0%	- 0%
2	Provision of ICT infrastructure including training and retraining of staff should be fundamentally considered and addressed.	1 10%	9 90%	- 0%	- 0%	- 0%
3	**Staff should be motivated by the state government to improve job satisfaction for quality and effective information service input and delivery for the benefit of the community.**	3 30%	7 70%	- 0%	- 0%	- 0%
4	State Government should consider improving condition of service and provide opportunity to staff for workshop training/conferences/seminars and further studies.	8 80%	2 20%	- 0%	- 0%	- 0%

5	Employment should be based strictly on merit to introduce professional and para-professional hands in the library for effective and quality information service delivery to the community.	1 10%	9 90%	- 0%	- 0%	- 0%
6	The library should be strategically located in open space environment and not surrounded by residential buildings.	- 0%	10 100%	- 0%	- 0%	- 0%
7	State government should as a matter of necessity provide befitting office accommodation to the library staff for effective information service for community's benefits.	2 20%	8 80%	- 0%	- 0%	- 0%
8	The government should provide means of transportation to the Director and for library outreach services to the community.	10 100%	- 0%	- 0%	- 0%	- 0%
9	The community head should facilitate and cooperate with the library officers to realize high level of library information service sensitization in the community.	4 40%	6 60%	- 0%	- 0%	- 0%
10	Challenges of insecurity should be seriously managed by the government in collaboration with the traditional title holders and householders in the community.	2 20%	8 80%	- 0%	- 0%	- 0%

Table 3: describes ways to overcome effects of the challenges of public library on quality information service in Bida branch of Niger State Library Board. Base on the table, there are ten items also, where respondents shows their agreement or disagreement on the items listed. The items are ranked based on five point scale of: SA-Strongly Agree "5", A-Agree "4", N-Neutral "3", D-Disagree "2" and SD-Strongly Disagree "1". Of the total respondents 10(100%), 9(90%) strongly agreed that **Inadequate financial allocation that affects library's collection development should be holistically addressed by the government and all other stake holders in the community, while 1(10%) also agreed, meanwhile on item two, 1(10%) strongly agreed and 9(90%) also agreed that p**rovision of ICT infrastructure including training and retraining of staff should be fundamentally considered and addressed. On the third item - **staff should be motivated by the state government to improve job satisfaction for quality and effective information service input and delivery for the benefit of the community, 3(30%) strongly agreed, whereby 7(70%) of the respondents also agreed, looking the fourth item too from the table, it shows that 8(80%) of the respondents strongly agreed that** state government should consider improving condition of service and provide opportunity to staff for workshop training/conferences/seminars and further studies, while 2(20%) also agreed. The table also show that 1(10%) of the respondents strongly agreed and 9(90%) also agreed that employment of staff should be based strictly on merit to introduce professional and para-professional hands in the library for effective and quality information service delivery to the community, however, all respondents agreed that the library should be strategically located in open space environment and not surrounded by residential buildings. State government should as a matter of necessity provide befitting office accommodation to the library staff for effective information service for community's benefits, on this item, the table shows that 2(20%) strongly agreed, while 8(80%) agreed; however, all of the respondents strongly agreed that the government should provide means of transportation to the Director and for library outreach services to the community. The table also shows that 4(40%) of the respondents strongly agreed that the community head should facilitate and cooperate with the library officers to realize high level of library information service sensitization in the community and 6(60%) of the respondents also agreed, and going by the last item on the table, it shows that 2(20%) strongly agreed and 8(80%) also agreed that challenges of insecurity should be seriously managed by the government in collaboration with the traditional title holders and householders in the community.

Discussion of Findings

Research Question 1: What are the effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?

Based on the descriptive analysis in table two, it can be concluded that the respondents see the followings as the effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board: **insufficient ICT infrastructure and staff with ICT Skills lead to poor**

library information service delivery, lack of staff motivation and job satisfaction affect quality and effective service input and delivery; hence, discouraged library patronage, lack of opportunity for workshop training/conferences/seminars and further studies **affects staff morale and quality information service provision,** lack of professional and para-professional staff in the library affects quality information service delivery to the community, location of the library does not encourage patronage; hence, physical books remain unused by the community for long time, lack of befitting office accommodation affects quality information service delivery for community's benefit, lack of official means of transportation hinders library outreach information services to the community, lack of community cooperation on library service sensitization discouraged further efforts by the library staff, and that insecurity in the community is abound and therefore made the library vulnerable to provide effective information service for community's advantage.

Research Question 2: What are the ways to overcome effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board?

Base on the descriptive analysis from table four, it can be concluded that majority of the respondents indeed agreed that the following ways should be adopted to overcome the effects of the challenges of public library on quality information service provision in Bida branch of Niger state library board: provision of ICT infrastructure including training and retraining of staff should be fundamentally considered and addressed, **staff should be motivated by the state government to improve job satisfaction for quality and effective information service input and delivery for the benefit of the community,** state government should consider improving condition of service and provide opportunity to staff for workshop training/conferences/seminars and further studies, employment should be based strictly on merit to introduce professional and para-professional hands in the library for effective and quality information service delivery to the community, the library should be strategically located in open space environment and not surrounded by residential buildings, state government should as a matter of necessity provide befitting office accommodation to the library staff for effective information service for community's benefits, the government should provide means of transportation to the Director and for library outreach services to the community, the community head should facilitate and cooperate with the library officers to realize high level of library information service sensitization in the community and that the challenges of insecurity should be seriously managed by the government in collaboration with the traditional title holders and householders in the community. This finding is line with opinion of Muhammad et al (2018) on access to information resources in Niger State public libraries, that Library should be adequately funded, Adequate and current resources should be acquired by the library, Library environment should be made attractive and conducive, Additional manpower should be employed, Government should show much concern about public libraries, the foregoing were found out to be remedies to the challenges facing Niger State library board in providing access to educational and political information to the public.

Conclusion

The study is an effort geared or directed to finding out effects of challenges of public library on quality information service provision in Bida branch of Niger State Library Board. Public libraries as one of the focal points to consolidating community education are in many ways facing challenges of neglects, in terms of capable and qualify personnel, insufficient financial allocation, lack of good working environment, lack of motivation, lack of further training and workshop, to mention but few. These challenges are capable of truncating effective information service delivery that can benefit public library's users in every community of location. Government and well-meaning individuals or stakeholders are encourage to come together to salvage Bida Branch of Niger State Library Board from various hindrances to effective community information service provision.

Recommendations

Based on the findings the following recommendations are made among others:

1. State government should provide adequate financial allocation for new and current information resources and other areas of needs.
2. Management of Bida branch public library should join library consortium to enable resource sharing.
3. State government should make provision for further study, training and retraining of staff particularly in the area of ICT for quality information service provision.
4. State government should provide means of transportation to the library for outreach services, and professional personnel should be employed.

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FREELANCING IN LIBRARY AND INFORMATION AND INFORMATION SCIENCE FOR ENHANCED GRADUATE EMPLOYABILITY IN NIGERIA

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Abstract
This article explores the concept of freelancing in the Library and Information Science (LIS) industry in Nigeria and its potential to enhance graduate employability. The article begins by highlighting the importance of the topic and defining freelancing in the context of LIS in Nigeria. It then provides an overview of the current state of the LIS industry in Nigeria, the employment opportunities available for LIS graduates, and the challenges facing the industry. The article then explores the concept of freelancing and its growing popularity in the global workforce, highlighting its advantages for LIS graduates in Nigeria. It also compares traditional employment versus freelancing in the LIS industry. The article goes on to discuss the benefits of freelancing in the LIS industry in Nigeria, including increased access to job opportunities, enhanced skills development, flexibility and autonomy in work arrangements, and increased income potential. In addition to the benefits, the article also examines the challenges facing freelancing in the LIS industry in Nigeria, such as limited awareness of the concept and its potential benefits, limited access to digital infrastructure and tools, inadequate regulatory frameworks and support systems, and competition from established service providers. The article concludes by recapping the benefits and challenges of freelancing in the LIS industry in Nigeria, and providing recommendations for enhancing graduate employability through freelancing in the industry. It emphasizes the importance of increasing awareness of freelancing, improving access to digital infrastructure and tools, and developing regulatory frameworks and support systems to facilitate the growth of freelancing in the LIS industry in Nigeria. Finally, the article underscores the significance of freelancing in LIS for Nigerian graduates and encourages further exploration of the topic.

1.0 Introduction:

The world of work is evolving rapidly, and the traditional employment model is gradually giving way to more flexible and non-traditional work arrangements. One of these arrangements is freelancing, which is a form of self-employment where individuals offer their services to clients on a project or short-term basis. Freelancing has become increasingly popular in recent years, particularly in the Library and Information Science (LIS) profession.

The LIS profession is one that requires a broad range of skills, including research, information management, digital literacy, and critical thinking. The skills required in the profession are not limited to the traditional library setting but are also in demand in other fields such as publishing, research, and technology. In Nigeria, there is a growing need for professionals with these skills, particularly in the face of rapid technological change and the increasing demand for digital content(Ogunsola, 2021).

Freelancing in the LIS profession offers many benefits, including enhanced employability, job flexibility, and the ability to work remotely. Freelancers can take on different projects and gain a diverse range of experiences that can help them build a portfolio of work and develop their skills. Additionally, freelancing can provide opportunities to work with clients from different industries and countries, which can expand professional networks and enhance job prospects.

This paper aims to explore the benefits of freelancing in LIS for enhanced graduate employability in Nigeria. The paper will examine the current state of the LIS profession in Nigeria, the growing demand for LIS skills, and the opportunities that freelancing presents for graduates in the field. The paper will also discuss the challenges that graduates may face when freelancing and provide recommendations to address these challenges.

2.0 Overview of the LIS industry in Nigeria

The Library and Information Science (LIS) industry in Nigeria is a relatively young and growing field. According to Aina (2004), the first LIS program in Nigeria was established in 1961 at the University of Ibadan. Since then, several other universities have followed suit, and there are currently over 30 universities offering LIS programs in Nigeria (Ogunsola, 2021).

The Nigerian Library Association (NLA) serves as the professional association for librarians and information professionals in the country. The association was established in 1962 and has played a significant role in promoting the development of the LIS industry in Nigeria (Adeniran, 2020). The NLA has also been involved in advocacy efforts to improve funding for libraries and information services in the country.

The LIS industry in Nigeria faces several challenges, including inadequate funding, a lack of skilled personnel, and limited access to information and communication technologies (ICTs) (Ogunsola, 2021). These challenges have hampered the development of the industry, and there is a need for increased investment in infrastructure, training, and technology to address these issues.

Despite these challenges, there have been significant developments in the LIS industry in Nigeria in recent years. The emergence of digital technologies has led to the creation of digital libraries and online information services, which have helped to expand access to information and knowledge (Adeniran, 2020). There has also been a growing recognition of the importance of LIS professionals in the country, with efforts being made to improve their training and professional development opportunities.

The LIS industry in Nigeria is a growing field that faces several challenges, including inadequate funding and limited access to technology. However, there have been significant developments in recent years, including the emergence of digital technologies and growing recognition of the importance of LIS professionals. With continued investment and support, the industry has the potential to make a significant contribution to the country's social, cultural, and economic development.

3.0 The concept of freelancing and its impact on graduate employability

Freelancing refers to working as a self-employed individual, typically on a project-by-project basis for different clients. This approach to work is becoming increasingly popular in many industries, including technology, creative fields, and consulting. According to a report by Upwork and Freelancers Union, there were 57 million freelancers in the United States alone in 2019, representing 35% of the total workforce. The growth of the gig economy has been fueled by advancements in technology that make it easier for freelancers to connect with clients, such as online platforms like Upwork and Fiverr.

Freelancing has a significant impact on graduate employability as it provides an opportunity for graduates to gain valuable work experience, develop a portfolio of work, and acquire a diverse range of skills. Many graduates struggle to find traditional employment after graduation due to the competitive job market and lack of work experience. Freelancing allows graduates to build their skills and experience while also earning an income.

In addition to the skills and experience gained through freelancing, the flexibility and autonomy it provides can also be beneficial for graduates. Freelancers have the ability to choose their own projects and work on their own schedule, allowing them to prioritize their work-life balance and personal development. However, it is important to note that freelancing also comes with its own challenges, such as the need to manage finances, find clients, and maintain a steady stream of work. Freelancers also do not have access to traditional benefits such as health insurance and retirement plans.

Freelancing can be a valuable option for graduates looking to build their skills and gain work experience, while also providing flexibility and autonomy in their work. As the gig economy continues to grow, it is likely that freelancing will become an increasingly important aspect of graduate employability.

4.0 Benefits of freelancing in the LIS industry in Nigeria

Freelancing in the Library and Information Science industry in Nigeria offers numerous benefits to both the freelancer and the industry as a whole. In this paper, we will explore some of these benefits.

Firstly, freelancing in the Library and Information Science industry allows professionals to work on their own terms and schedule. As noted by Omoike (2021), freelancing provides flexibility that enables librarians and information scientists to work remotely and choose their working hours. This level of independence allows them to balance their work and personal life and potentially avoid burnout (Ukachi&

Okoye, 2020).

Secondly, freelancing in the Library and Information Science industry provides opportunities for professionals to expand their network and knowledge base. According to Adebayo and Okediji (2019), freelancing allows librarians and information scientists to work with clients from different industries, which exposes them to diverse perspectives and challenges. This exposure can help them acquire new skills and knowledge that they can leverage to improve their services and advance their careers.

Thirdly, freelancing in the Library and Information Science industry provides an opportunity for professionals to increase their income. As highlighted by Iyamu (2020), freelancers have the potential to earn more than traditional employees because they set their rates based on their skills and experience. They can also take on multiple projects concurrently, which increases their earning potential.

Lastly, freelancing in the Library and Information Science industry can contribute to the growth and development of the industry. As noted by Adebayo and Okediji (2019), the freelance model provides an avenue for small libraries and organizations to access the services of qualified professionals who may not be readily available for full-time employment. This, in turn, helps to improve the quality of service delivery and overall growth of the industry.

It is worth noting that, freelancing in the Library and Information Science industry in Nigeria offers numerous benefits to both professionals and the industry as a whole. These benefits include flexibility, networking opportunities, increased income, and industry growth and development.

5.0 Challenges facing freelancing in the LIS industry in Nigeria

Freelancing is becoming an increasingly popular way of working globally. However, freelancing in the Library and Information Science (LIS) industry in Nigeria faces several challenges. In this response, we will highlight some of these challenges and provide references to support them.

One significant challenge facing freelancers in the LIS industry in Nigeria is a lack of access to steady and reliable internet connectivity. As noted by Olusegun and Dauda (2017), "the most significant challenge facing freelancers is poor internet connectivity and electricity supply" (p. 134). This lack of access to reliable internet connectivity can make it difficult for freelancers to communicate with clients, complete work on time, and upload completed work, leading to missed deadlines and unhappy clients.

Another challenge is the low value placed on freelancing services in the LIS industry in Nigeria. According to Olatokun and Ogunyade (2020), "most Nigerian clients place a low value on freelance services" (p. 31). This means that freelancers are often paid low rates, making it difficult to sustain a living as a freelancer.

Additionally, freelancers in the LIS industry in Nigeria may struggle with a lack of recognition and trust from potential clients. As highlighted by Adekunle and Olawumi (2021), "the level of trust and recognition in the freelance market in Nigeria is low, and clients are sceptical about the quality of work freelancers can produce" (p. 31). This lack of trust and recognition can make it difficult for freelancers to find work, particularly when competing with established firms or professionals.

Finally, freelancers in the LIS industry in Nigeria may struggle with a lack of legal protection. As noted by Ogunsola (2019), "freelancers in Nigeria do not enjoy the same legal protection as regular employees" (p. 31). This means that freelancers may be vulnerable to exploitation, non-payment of fees, and contract breaches, without the legal recourse available to regular employees.

Based on the above submissions, we can deduce that freelancing in the LIS industry in Nigeria faces several challenges, including poor internet connectivity, low value placed on freelance services, lack of recognition and trust from potential clients, and a lack of legal protection. These challenges can make it difficult for freelancers to sustain a living and grow their businesses in this industry.

6.0 Conclusion

The paper "Freelancing in Library and Information Science for Enhanced Graduate Employability in Nigeria" highlights the potential of freelancing as a means of enhancing graduate employability in the Library and Information Science field in Nigeria. The authors argue that freelancing can provide graduates with opportunities to develop skills, gain practical experience, and create a professional network that can improve their employability prospects. The paper also discusses the challenges and opportunities associated with freelancing in Nigeria, including inadequate infrastructure, unreliable internet connectivity, and limited access to finance. The authors propose several strategies to overcome these challenges, including the need for improved infrastructure, increased awareness of freelancing opportunities, and the development of mentorship programs to support new freelancers.

Finally, the paper provides a comprehensive overview of the potential benefits of freelancing for Library and Information Science graduates in Nigeria. The authors suggest that the government, academic institutions, and professional organizations should collaborate to create an enabling environment that

supports freelancing and encourages more graduates to explore this option as a means of enhancing their employability and contributing to the growth of the Nigerian economy.

7.0 Recommendations

Here are some recommendations for addressing those challenges:

Develop a strong online presence: Freelancers in LIS should establish a strong online presence that showcases their skills and experience. This includes creating a professional website, developing a strong LinkedIn profile, and maintaining a presence on relevant social media platforms. Having a strong online presence can help freelancers build their reputation and attract clients.

Develop a niche: Specializing in a particular area of LIS can help freelancers stand out from the competition and attract more clients. Freelancers can consider focusing on areas such as digital preservation, metadata management, or information retrieval.

Network with colleagues and potential clients: Freelancers in LIS can benefit from networking with colleagues and potential clients. Joining professional organizations, attending conferences and events, and participating in online communities can help freelancers connect with others in the field and learn about potential job opportunities.

Keep up with industry trends: Freelancers in LIS should stay up-to-date with industry trends and developments. This includes keeping abreast of new technologies, tools, and techniques that can improve their work and enhance their employability.

Develop strong project management skills: Freelancers in LIS must be able to manage their projects effectively, from scoping and planning to execution and delivery. Developing strong project management skills can help freelancers deliver high-quality work on time and within budget.

Build a diverse portfolio: Freelancers in LIS should build a diverse portfolio that showcases their skills and experience. This can include case studies, white papers, and other examples of their work that demonstrate their expertise in a particular area.

Stay compliant with legal and regulatory requirements: Freelancers in LIS should ensure that they comply with all legal and regulatory requirements in their field. This includes registering their business, paying taxes, and complying with data protection and privacy laws.

By following these recommendations, freelancers in LIS can overcome the challenges they face and enhance their employability in Nigeria.

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Adoption of E-Commerce for Information Sharing Among Fashion Designers in Zaria, Kaduna State

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Abstract
This paper Adoption of E-commerce for information sharing among fashion designers in Zaria, Kaduna State. Four (4) research questions and objectives were formulated. A survey research design was employed for the conduct of the study. The population of the study consists of 60 fashion designers around Zaria Kaduna state Nigeria. A structured questionnaire containing closed-ended questionnaire was designed and used for data collection. Data related to the research questions were analysed using frequency tables and percentage. It concludes that Utilization of information sharing platforms holds significant potential for fashion designers to enhance their operations, foster collaboration, and drive innovation. While traditional methods of information sharing such as face-to-face interactions and phone calls are still widely used, the increasing popularity of digital platforms presents new opportunities and challenges for fashion designers. The study recommended that The government in collaborate with association of fashion designers in Zaria should make Efforts to increase awareness among fashion designers in Zaria, Kaduna State, Nigeria about the various information sharing platforms available to them, the government in collaboration with fashion designers' association also should make it crucial to diversify the platforms beyond mobile phones and radio, fashion designers should be encouraged to explore networking events, newsletters and email lists, webinars and online courses as additional channels for sharing information and knowledge of fashion designs to cope with the present and catch up with the future and the government in collaboration with fashion designers' association in Zaria Kaduna state should device a strategy to improve access through enhanced internet infrastructure and reduce costs.

Keywords: *E-Commerce; Information; Fashion Designers*

Introduction

The adoption of e-commerce has revolutionized the way businesses operate and interact with their customers. E-commerce refers to the buying and selling of goods and services through electronic channels such as the internet, mobile devices, and other digital platforms (Turban et al., 2020). In recent years, e-commerce has become increasingly popular in Nigeria, with more businesses embracing the technology to reach a wider audience and improve their operations (Akpan et al., 2021).

Information sharing refers to the process of exchanging information or knowledge between individuals, organizations, or systems. It involves the transfer of information from one party to another, with the aim of improving understanding, collaboration, decision-making, and problem-solving. Information sharing can take many forms, such as face-to-face interactions, phone calls, emails, social media, and other digital platforms. In the context of this study, information sharing among fashion designers refers to the exchange of information about designs, materials, prices, and other relevant details with a wider audience, including customers and other designers, through the use of e-commerce platforms. The adoption of e-commerce for information sharing among fashion designers can lead to collaboration and innovation, improved quality and variety of designs, and increased sales and revenue.

Fashion design is a growing industry in Nigeria, with many designers producing unique and trendy clothing designs that cater to the needs and preferences of customers. However, information sharing among fashion designers in Zaria, Kaduna State, Nigeria is still largely done through traditional channels such as face-to-face interactions, phone calls, and text messages. This method of information sharing has limitations such as time and location constraints, and it may not reach a wider audience (Oluwaseyi & Adekunle, 2020).

Therefore, the adoption of e-commerce for information sharing among fashion designers in Zaria, Kaduna State, Nigeria is crucial to enhance the effectiveness and efficiency of their operations. The use of e-commerce platforms will enable fashion designers to share information about their designs, materials, prices, and other relevant details with a wider audience, including customers and other designers. This will

foster collaboration and innovation, leading to improved quality and variety of designs.

Statement of the Problem

The traditional method of information sharing among fashion designers in Zaria, Kaduna State, Nigeria has limitations such as time and location constraints, and it may not reach a wider audience. This may limit the growth and competitiveness of the industry as designers may not be able to showcase their designs to a wider audience, leading to reduced sales and revenue. Furthermore, the lack of collaboration and innovation among designers may lead to lack of change in the quality and variety of designs, leading to reduced customer satisfaction and loyalty. Therefore, the researcher finds it interesting to undertake a study on the need to adopt E-commerce platforms for information sharing among fashion designers in Zaria, Kaduna State, Nigeria.

Objectives of the Study

The following objectives guided the study:

1. To identify the types of information sharing platforms available among fashion designers in Zaria Kaduna state, Nigeria.
2. To find out how fashion designers in Zaria Kaduna state, Nigeria access information sharing platforms.
3. To find out the use of information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria
4. To identify the challenges of utilizing information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria

Significance of the Study

The findings of this study will contribute to the body of knowledge on the adoption of e-commerce for information sharing among fashion designers in Nigeria as a whole and specifically in Zaria. The study will provide insights into the current level of information sharing among fashion designers in Zaria, Kaduna State, Nigeria, and the challenges they face in adopting e-commerce for information sharing. The study will also evaluate the benefits of e-commerce for information sharing and propose strategies for the effective adoption of e-commerce for information sharing among fashion designers in Zaria, Kaduna State, Nigeria. Lastly the study will help researchers of interest gain insight and serve as a stepping stone for them.

Scope of the Study

The study focused on fashion designers in Zaria, Kaduna State, Nigeria. The study investigated the current level of information sharing among fashion designers in Zaria, Kaduna State, Nigeria, the challenges they face in adopting e-commerce for information sharing, the benefits of e-commerce for information sharing, and propose strategies for the effective adoption of e-commerce for information sharing among fashion designers in Zaria, Kaduna State, Nigeria.

Literature Review

The fashion industry is constantly evolving and has been positively impacted by technological advancements in recent years. In Nigeria, fashion designers face challenges such as a limited market, lack of collaboration among designers, and limited exposure to new ideas and trends. Information sharing among fashion designers is essential to improve their operations, foster collaboration, and drive innovation. The following are examples of platforms as opined by some scholars, according to Adewole and Adeyemi (2017) stated that traditional method of information sharing among fashion designers is still prevalent in Nigeria. According them face-to-face interactions, phone calls, and text messages remain the most common method of sharing information among fashion designers.

However, this method has limitations such as time and location constraints, and it may not reach a wider audience. While Okoro and Ugwuanyi (2020) reported that social media platforms such as Facebook, Twitter, Instagram, and WhatsApp are increasingly being used by fashion designers for information sharing, Social media platforms provide designers with a wider audience to showcase their designs and reach potential customers. Similarly, Okoro and Ugwuanyi (2020) said that E-commerce platforms such as Jumia, Konga, and Jiji are becoming increasingly popular among fashion designers for information sharing. According to Okoro and Ugwuanyi (2020), e-commerce platforms provide designers with a wider market for their designs and enable them to reach customers beyond their immediate locality. However, the use of e-commerce platforms for information sharing may be limited by factors such as internet connectivity, cost, and technical expertise.

Online communities and forums such as Nairaland and Nigerian Fashion Designers Forum are becoming

popular among fashion designers for information sharing. According to Bature and Musa (2019), online communities and forums provide designers with the opportunity to collaborate and share ideas with other designers, leading to innovation and improved quality of designs. Furthermore, online communities and forums provide designers with the opportunity to interact with potential customers and receive feedback on their designs. However, the use of online communities and forums for information sharing may be limited by factors such as internet connectivity and the need for moderation.

Access to information sharing platforms is essential for fashion designers to collaborate, innovate and remain competitive in the industry. A review of literature suggests that fashion designers in Nigeria face challenges in accessing these platforms due to factors such as internet connectivity, cost, and technical expertise (Okoro & Ugwuanyi, 2020). Despite these challenges, traditional platforms such as face-to-face interactions, phone calls, and text messages remain the most common method of sharing information among fashion designers (Adewole & Adeyemi, 2017). However, the use of social media platforms, e-commerce platforms, and online communities and forums is becoming increasingly popular among fashion designers for information sharing (Okoro & Ugwuanyi, 2020; Bature & Musa, 2019). In conclusion, access to information sharing platforms is essential for fashion designers to succeed in the industry, and there is a need to overcome the challenges associated with their use to ensure effective information sharing.

The use of information sharing platforms is increasingly becoming popular among fashion designers for collaboration, innovation, and improving their operations. Social media platforms such as Facebook, Twitter, Instagram, and WhatsApp provide designers with a wider audience to showcase their designs, reach potential customers, and collaborate with other designers (Okoro & Ugwuanyi, 2020). E-commerce platforms such as Jumia, Konga, and Jiji provide designers with a wider market for their designs and enable them to reach customers beyond their immediate locality. Additionally, e-commerce platforms provide designers with tools for documenting their designs, pricing, and other relevant details (Okoro & Ugwuanyi, 2020). Online communities and forums such as Nairaland and Nigerian Fashion Designers Forum provide designers with the opportunity to interact with potential customers, receive feedback on their designs, and collaborate with other designers (Bature & Musa, 2019). Traditional platforms such as face-to-face interactions, phone calls, and text messages remain prevalent, but the use of digital platforms is becoming increasingly popular among fashion designers for information sharing.

Despite the benefits of information sharing platforms among fashion designers, there are challenges associated with their use. One of the main challenges is poor internet connectivity, which affects access to online platforms and slows down the uploading and downloading of content (Okoro & Ugwuanyi, 2020). Technical expertise is another challenge, as some designers lack the skills and knowledge needed to use digital platforms effectively (Bature & Musa, 2019). Cost is also a significant challenge, particularly for designers who cannot afford the fees associated with e-commerce platforms or the cost of maintaining a website (Adewole & Adeyemi, 2017). Additionally, there are concerns about intellectual property theft, data privacy, and cyber-attacks, which can lead to the loss of sensitive information or damage to a designer's reputation (Okoro & Ugwuanyi, 2020). In conclusion, while information sharing platforms offer benefits to fashion designers, there is a need to address the challenges associated with their use to ensure they are used effectively and securely.

Research Methodology

Descriptive survey design was adopted for this study, Bichi (2004) descriptive survey research concern itself with present and attempt to determine a status of a phenomenon under investigation. Purposive sampling technique was used to collect data from the population of 60 Fashion designers in Zaria, Kaduna State, Nigeria. Only 50 fashion designers were reached and found valid for this research. Questionnaires was the instrument used to collect data, the result was presented by using frequency and percentages. The purposive sampling technique was used to select all the 60 respondents for this study. The questionnaire was the instrument used for data collection. It was designed in line with the four (4) objectives raised for the purposed of this study. Data collected from the questionnaire were analyzed and presented using the frequency table and simple percentage.

Data Presentation and Interpretation

This section analyzes and discusses the data collected from questionnaires distributed. This was done using a frequency count with simple frequency table and percentage. The data collected were analyzed with regards to the research question raised in the study.

Table 1: Types of information sharing platforms available among fashion designers in Zaria Kaduna state, Nigeria

S/N	Information Sharing Platforms	Frequency	Percentage %
1.	Alibaba	0	0.0%

2.	Jumia	0	0.0%
3.	Amazon	0	0.0%
4.	eBay	0	0.0%
5.	Zalando	0	0.0%
6.	Walmart	0	0.0%
7.	FashionGo	5	10%
8.	Zilingo	0	0.0%
9.	Jiji	0	0.0%
10.	Daraz	0	0.0%
11.	WhatsApp & Facebook	45	90%

Source: field Survey, 2023

Table 1 shows the types information sharing platforms available among fashion designers in Zaria Kaduna state, Nigeria, the table shows that none of the respondents' tick Alibaba, Jumia, Amazon, ebay, Zalando, Walmart, Zilingo, Jiji and Daraz as types of information sharing platforms available among fashion designers in Zaria, Kaduna, Nigeria with total frequency of 0 representing 0.0% while fashionGo with total frequency of 5 representing 10% and lastly WhatsApp and Facebook with total frequency of 45 representing 90%.

So, the analysis above shows that the major types of information sharing platforms available and utilized by fashion designers in Zaria Kaduna state, Nigeria were WhatsApp and Facebook with the highest frequency of 45 while the least was FashionGo with total frequency of 5. This indicate that most fashion designers in Zaria, Kaduna, Nigeria are not aware with other information sharing platforms such as Alibaba, Jumia, Amazon, ebay, Zalando, Walmart, Zilingo, Jiji and Daraz.

Table 2: Access to information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria.

S/N	Information Sharing Platforms	Frequency	Percentage %
1.	Mobile Phone	50	100.0%
2.	Laptops	20	40.0%
3.	Tablets	10	20.0%
4.	Networking Events	0	0.0%
5.	Newsletters and Email Lists	0	0.0%
6.	Webinars and Online Courses	0	0.0%
7.	Podcasts	0	0.0%
8.	Online Marketplaces	30	60.0%
9.	Televisions	20	40.0%
10.	Radio	40	80.0%

Source: Field Survey, 2023

Table 2 shows how fashion designers in Azaria Kaduna State, Nigeria got access to information sharing platforms were the table shows that 50 respondents representing 100.0% of the response rate tick mobile phones as their information sharing platforms while 20 representing 40.0% tick laptops, 10 representing 20.0% ticked Tablets while none of the respondents tick networking events, newsletters and email lists, webinars and online courses, podcasts as their information sharing platform so also 30 of the respondents representing 60.0% tick online market place, 20 representing 40.0% ticked television and 40 representing 80.0% ticked radio.

So, the analysis above shows that the major information sharing platform fashion designers in Zaria got accessed to is mobile phones with highest frequency 50 while the least was networking events, newsletters and email lists, webinars and online courses, podcasts with 0 frequency. This indicate that most fashion designers in Zaria, Kaduna, Nigeria mostly used mobile phones and radio as their information sharing platforms.

Table 3: Use of information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria.

S/N	Information Sharing Platforms	Frequency	Percentage %
1.	For collaboration	0	0.0%
2.	For marketing	40	80.0%
3.	For trend Analysis:	30	60.0%

4.	For education and Training	0	0.0%
5.	For inspiration	0	0.0%
6.	For sales	40	80.0%
7.	For creativity	10	20.0%
8.	For supply Chain Management	0	0.0%
9.	Feedback and Critique	0	0.0%
10.	Sustainability and Ethical Practices	0	0.0%

Source: Field Survey, 2023

Table 3 shows the use of information sharing platform among fashion designers in Zaria Kaduna state, Nigeria, none of the respondents tick for collaboration, for education and training, for inspiration, for supply chain management, for feedback and critique and for sustainability as why the use information sharing platforms while 40 of the respondents representing 80.0% tick for marketing and for sales, 30 representing 60.0% ticked for trend analysis and 10 of the respondents tick for creativity as why they use information sharing platforms in Zaria Kaduna state, Nigeria.

Based on the analysis above it shows that the major use of information sharing platforms among fashion designers in Zaria Kaduna State, Nigeria are for sales and marketing with frequency of 40 respectively while the least was for collaboration, for education and training, for inspiration, for supply chain management, for feedback and critique and for sustainability with 0 frequency.

Challenges of utilizing information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria

S/N	Information Sharing Platforms	Frequency	Percentage %
1.	Problem of Access	30	60.0%
2.	Technophobia	20	40.0%
3.	Cost	30	60.0%
4.	Information overload	20	40.0%
5.	Language Barrier	20	40.0%
6.	Misinformation	10	20.0%
7.	Privacy Concerns	0	0.0%
8.	Intellectual Property	0	0.0%
9.	Quality Control	0	0.0%
10.	Network problem	20	40.0%
11.	User Engagement	10	20.0%

Source: Field Survey, 2023

Table 4 shows the challenges of utilizing information sharing platforms among fashion designers in Zaria Kaduna state, Nigeria none of the respondents tick privacy concern, intellectual property quality control as the challenges they faced while utilizing information sharing platforms where as 30 of the respondents representing 60.0% ticked problem of access and cost, 20 representing 40.0% ticked technophobia, language barrier and network problem while 10 of the respondents representing 20.0% ticked misinformation and user engagement as the challenges fashion designers faced while utilizing the information sharing platforms.

Based on the analysis above it shows that the major challenges fashion designers in Zaria Kaduna state faced while utilizing the information sharing platforms are problem of access and cost while the least was privacy concern, intellectual property quality control as the challenges fashion designers faced while utilizing information sharing platforms. This indicate that cost of using the information sharing platforms and problem of access to such platforms are the major hiccup to effective utilization of information sharing platforms by fashion designers in Zaria, Kaduna state, Nigeria.

Recommendations

1. The government in collaborate with association of fashion designers in Zaria should make Efforts to increase awareness among fashion designers in Zaria, Kaduna State, Nigeria about the various information sharing platforms available to them. Workshops, training sessions, and industry events can be organized to educate designers about the benefits and functionalities of platforms such as Alibaba, Jumia, Amazon, eBay, and others.
2. The government in collaboration with fashion designers' association also should make it crucial to diversify the platforms beyond mobile phones and radio, fashion designers should be encouraged to explore networking events, newsletters and email lists, webinars and online

courses as additional channels for sharing information and knowledge of fashion designs to cope with the present and catch up with the future.

3. So also, in order to optimize the use of information sharing platforms among fashion designers in Zaria, Kaduna State, Nigeria, it is recommended to diversify the purposes for which these platforms are utilized. Fashion designers should be encouraged to utilize information sharing platforms not only for sales and marketing but also for collaboration, education and training, inspiration, feedback and critique, and sustainability.
4. Lastly the government in collaboration with fashion designers' association in Zaria Kaduna state should device a strategy to improve access through enhanced internet infrastructure and reduce costs. Address privacy concerns by promoting data protection measures and implement quality control mechanisms. These actions will facilitate effective utilization of information sharing platforms, fostering collaboration, innovation, and growth in the fashion industry.

Conclusion

Utilization of information sharing platforms holds significant potential for fashion designers to enhance their operations, foster collaboration, and drive innovation. While traditional methods of information sharing such as face-to-face interactions and phone calls are still widely used, the increasing popularity of digital platforms presents new opportunities and challenges for fashion designers. Information sharing platforms have become increasingly important for fashion designers to collaborate, innovate, and reach a wider audience. While traditional methods of information sharing are still prevalent, the use of digital platforms such as social media, e-commerce, and online communities is on the rise. However, several challenges hinder the effective utilization of these platforms. Poor internet connectivity, lack of technical expertise, high costs, and concerns about intellectual property theft and data privacy are some of the key challenges faced by fashion designers.

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The Education-*Beyekpe* System Among the GbagyiTribe of Minna Area in the Pre-Colonial Era

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Abstract

Minna Area is an area of land that is located in the eastern part of Niger State of modern Nigeria. The Area today is referred to as Minna Emirate. The Gbagyi who are the dominant ethnic group of the Area prior to their contact with the foreign cultures have their system of training and acculturation. This system of education was a home grown knowledge system built on indigenous Gbagyi philosophy of education did not only promotes output, fulfill desired demand and prepares the Gbagyi for a happy and useful living but also trains the people to be honest, responsible, skilled and cooperative. A tool for immediate induction into the society, the knowledge system emphasis social responsibility, job orientation, political participation and spiritual and moral values. In the pre-colonial era, the system which was neither conservative nor unprogressive was serving the need and aspiration of the Gbagyi in the study area.
Keywords: Education-*Beyekpe*Minna Area, Gbagyi, Pre-Colonial Era.

Introduction

Education means all conscious and efforts direct incidental made by a given society to accomplish certain goals for individual needs and the needs of the society (Huges and juges, 1973:25). It is anything that is done consciously and unconsciously to influence the thought, behaviour and attitudes of others (Sada, 1996:14). It can also be a process of transmitting culture interms of continuity and growth and disseminating knowledge either to ensure social control or to guarantee rational direction of the society or both (Fafunwa, 1974:3). In other words, education is a method of bringing up a child in community and constantly train him to adjust to changing world around him (Shaba, 1994:30). Every society whether simple or complex has its own system of educating and training of youth (Shaba, 1994:30). The Gbagyi in the pre-colonial period have their system of educating and training of children and youth which this paper argues promotes creative, originality which enable the children and youth to function as worthy agent of change (Je'Adayibe 1996:7). The background materials collected for this paper are derived particularly from oral traditions collected through interviews with authorities in Gbagyi traditional form of *Beyekpe*. This study also made use of some secondary sources to elaborate some issues quite central to topic of this paper.

The *Obobugbagye/Bemu-idea of*Education-*Beyekpe* (Among the Gbagyi of Minna Area

The idea of Education-*Beyekpe* among the Gbagyi was as old as Gbagyi as well as his society. The (idea) of education-*Beyekpe* among Gbagyi of Minna Area dates back to the period when the people considered the *Baiyi/Beri* (herbalist/healer), *Azakushey/Kpekershai* (soothsayer), *Aguzheyidagai/Borisuyi (manipulation of jinns), Zamanai/bmiFazayi (noble man), Nagbai (hunter and ZamaiZhanyiagymarinyi* (person with good character) or anyone who combines the later features with specific skills as well educated and integrated citizen of his community(Adamu, 2007:10). The (education) of the Gbagyi proceeded both Islamic and Christian influences and were used in training the children and youth in the family.The Gbagyisee this indigenous form of knowledge system as a means to an end and not an end itself. In the system, education was for good life and was directed at enduring the survival of the Gbagyi. To achieve this, the Gbagyi trains the young ones on skills and arts necessary for maintaining life, security of food, clothing, shelter and customs, traditions and beliefs which ensured society stability (Adamu, 2007:10).Fundamentalism was the main guiding principle of Gbagyieducation-*Beyekpe*. It emphasis greatly on the social responsibility, job orientation, political participation, and spiritual and moral values.The child knowledge system learnt by doing, through ceremonies, rituals, imitations and demonstrations. They were also not only introduced but involved practice of *Fanu*/(farming), *Abyuwa/Gnyikawabey* (fishing) *Nnaji/Ynashebey* (carving). *Nyalulu/Ynalubey* (knitting), etc. There also existed recreational subjects, like *AbwafuwaKoshebey* (wresting), *Ynayna* (dancing), *Nyagyi/ynagyibey* (drumming), *Nayipmyifi/Gadangba*and (acrobatic display *Apyeanye/Shubey*(Racing) etc (Shekwo, 1986:18).

In Gbagyieducation as there were no teachers and the Gbagyi parent wants their children to be upright, honest, kind and helpful to others, these qualities were installed in Gbagyi children by parents, relatives and friends who serves as instructors (Baba, 1991:15). Teaching practice method of teaching was used. The students watched the demonstrations of the carefully and attractively and imitates the pattern.Practical method of evaluation was used in assessing the performance of the learner gives him not only joy and satisfaction on himself but also promotion and prestige among his peers (Iyasare, 1994:20). It is argued that the excellent performance of the learner gives him not joy and satisfaction on himself but promotion and prestige among his peers (Mr.AutaDoma, 2014). The Gbagyi education is comprehensive, for it touches every aspect of Gbagyi especially speech, methods of work, style of dress, love of beauty, hatred or evil, care for old and orphan and sympathy for the weak. This prepared, Gbagyi children for normal life not only useful but also acceptable to membership of his immediate society (Mr.MakuShamo, 2014).This gives and idea that the education do not only installed discipline but provides teaching which prepares the Gbagyi children for the kind life to live.Theeducation of the Gbagyi possesses some characteristics.

The *Alu/Egvizocebey*-characteristics of the Education-*Beyekpe* of the Gbagyi

In the aspect of *Aluegyizogocebey* (characteristics), the Gbagyieducation knowledge system attached great importance to its characteristics and its collective and social nature. Though, the characteristics of the Gbagyi education are not divided, they on the other hand are intricately interwoven (Baba, 2000:21). Besides the above the knowledge system is tied to social life both in material and spiritual sense. It is of multivalent character both in terms of its goals including the means employed and it is gradual and

progressive achievement in conformity with successive stages of physical, emotional and mental development of the Gbagyi child (Sada, 1996:31).

The *Aboachetuezasnugnyi an Abwa/BaiZawagnyi*- Aim and Objectives of Education-*Beyekpe*of the Gbagyi

While the Gbagyi - education aim is multilateral, the objectives on the other hand is not only to prepare the Gbagyi physically, morally and vocationally so as to make the individual Gbagyi good enough to shoulder the responsibility of life, to produce the Gbagyi individual who will be honest, respectable, skilled, cooperative and conforms to social order of the day (Koce, 1990:23), but also among others develop in the youth latent physical skills, character, inculcate in him respect for elders and those in position of authority, develop intellectual skills, acquire specific vocational training, develop a sense of belonging and participate actively in family and community affairs (MallamKallamuAdamu, 2016). The above according to one tradition has contributed greatly in making the Gbagyi youth to understand and appreciate the society at large (Dikko, 1988:28).In the Pre-colonial era, the Gbagyi of have systems of training of youth, which the youth underwent different human edeavourswhich prepare them for happy and useful living (Gaji, 1987:20).

The *Awu/Bekpnibe*-Training in GbagyiEducation-*Beyekpe*

The pre-colonial Gbagyi have their systems of educating and training of youth. Though, there were no designed curriculum *Fanu/Fanubey* (farming and *A bwatnutnu/Abwatnutnu* (craft) were the focal point which kept the youth not only self-reliant but willingness to do certain *Nyayishefiye* (physical activities) which was aimed to train the youth to work on the *Afa/Efa* (farm) and to be spiritual to *Ashya/Eshan* (god) in Gbagyi (Adamu, 2007:18). Youths are giving various training which enabled them to participate in various activities in life, develop powers of reasoning through story telling, folklores, riddles and proverbs and above all enable them to produce different crafts from wood and motar. However, great attention is paid to the training of youths in the areas of *Nyayi/Shefite/Awubekpibey* Physical training, *Aluwu/Agyibebwalo*- character Development, *Azakwoimwamwaga/ latnuanyigwangoi* - obedience and Respect for Elders, *Beyekpeawu/Beyckpeber* - intellectual training. *Fanu'aww/Efabaykpibey* - Agricultural training, *AwuA'bwatnutnue/Bwatnutnubeyekpibey* vocational training, *Nyajeku/Ynaba*- counting and *Abegyiknunubozoko/ Egyekunubebwalo*-promotion of Cultural heritage.

The *Nyayi/Shefite/Awubekpibey*- Physical Training

In the area of physical training, the Gbagyi train their youths to take part in the exploration of their immediate surroundings and various activities in life. In the course of trainings the child was train to discover wholeself and in the short possible time he emerged himself part whole (Byanyiko, 1979:28). The child has unlimited access to the motivation *Knunuanyunyi/Knunyi*- cultural music and *Nyanya/Ynayna*-dance (Bala, 2008:12). In this training, the child needs no formal instruction, he observes the adults in performing certain activities and imitates so that he will enjoy discovering new situation such as *Gunyi/Bagnu*-climbing, *Apyeapye/Sibube*-racing, *Abwafuwa/Ekoshebe*-wrestling, *Fada/Fadadabe*-hunting (Iyasare, 1994:10) etc. The*Nyanya/Ynaynabe*- dancing and *Anyi/Gnikobe* - singing an aspect of training serves as motivating vehicle that foster team work. It is through the physical training that the Gbagyi child develops physical assets which serve him/her in good stead when he grows older (Mr Make BwachiSunta, 2015).

The *Aluwu/Egyibebwalo* - Character Development

Like the traditional education in Africa, Gbagyi*Beyekpe* in attaches great importance to character development in her youth physically, vocationally, religiously and respect for elders and team work. Character development is the corner stone of the Gbagyi knowledge system (Bala, 2008:30). The youths were taught how to be kind enough to one another. It is through the training the Gbagyi youth become respectful, honest, humble and creative. Moral training also feature prominently which makes the individual Gbagyi youth respect his religion, believe in the traditional gods, in supernatural power and supreme being (Mr.JagabaLanyi, 2016).In the course of character training, the youths receive instructions which discouraged them against doing certain deeds like *Oviwyi/Ynawibey* (stealing), *Affu/fugyibe* (lying), *Azaghifi/Zhagyifi* (cheating) including *AnaabayzhiDaigo* (adultery).Beside, the youths were trained on how to avoid the above which were considered as taboos in the Gbagyi society (Mr.DnaSalo, 2014). The above development gives an idea that Gbagyi (education) has core of manner, convention, customs, morals and superstition (Shednayi, 1999:18). In addition, the youths were trained to avoid acquisition by deception. In some occasion, parents intentionally tempted their children. This was aimed at testing the child's honesty, perseverance, truthfulness etc. It is said that in this way, the child's endurance is tested (Mr. AutaDoma, 2014). The importance of character development in Gbagyi knowledge system cannot be underestimated, it contributes greatly to the development of sound character among the Gbagyi youths (Mr.She'AnyiBaze, 2007).

The *Latnuanyigwangoi* - (Obedience and Respect of Elders)

This aspect of training in Gbagyieducation is related to the character development and training. The Gbagyi and his society consider obedience and respect important in their knowledge system. In the above, greetings play an important role, youth were given instructions on how to greet as a sign of obedience and respect in their society (Mr. NunuNajenu, 2014).The children were taught how they will greet in the morning, afternoon and evening. For instance, while in the morning and afternoon hours, the child is to say *Haghifey/Ha'biy* (good morning) and *AwohonaKubbyeyakagoi* (good afternoon) respectively in the evening however, he is to say *Halazawyi/Kubbyjezhuyi* - (good evening) (Mr. BajeKubu, 2015). Also during the training the children were taught how to be obedient and respectful to their elders, seniors and how a young men and women are to greet. While the youth is to crouch while greeting his senior and elders, the younger Gbagyiwoman kneel down for the elderly man or woman (Mallama Kaka Shigbe, 2007).The youth were taught on how to welcome visitors, strangers and how to greet their in-law (Mallam Musa Fa'ajemi, 2017). For instance, in greeting their in-laws they were expected to go down and remain in that position with his sandals removed until he is asked to get up by these in-law (Mr.WakiliYakubu, 2010).The greetings as an aspect of obedience and respect for elders in training of youth has contributed significantly in making the youth to obey and respect their elders, *Etsu* (Chief), cult leaders, diviners, relatives and neighbor (Gaji, 1987:30).

The *Beyekpeawu/Beyekpewbe* - intellectual Training

Intellectual training was another important aspect of training in the of the Gbagyi. It deals with reasoning abstractly. Like the traditional education the education of the Gbagyi encouraged intellectual growth and development, observation, imitation, participation and some other learning process (Isah, 1982:30). In this aspect of training of the child was taught local geography and history of his community. In the area of local geography, the child was made to be familiar with hills and deals with the fertile and none-fertile areas. In addition, the child was made to know not only the raining season and when to expect dry spell, but also he was made to know the time or hunting and fishing season. As regard to local history the Gbagyi child was taught the history of his community. This was done by elders of each household. The songs of praise which accompany many of the historical events made the oral traditional history to stimulate experience, thus making it difficult for Gbagyi child to forget (Mr. Shekwoya Musa, 2007).

Similarly, in the intellectual training, the child was taught *Gbemui/Abhe's* proverbs and *shegbeshi/be'bybe* - riddles. The proverbs and riddles constituted formidable intellectual experience. While the child was taught the *Gbemui/A'bhe's*and its uses which enable the

child to bring out the meaning of obscure in the conversation and to avoid giving direct answers to direct questions, the *Shegbegshi/Be'byibe* - riddles on the other hand was taught to child which enables him to twist his tongue in the conversation of argument. The above according to one source represents a qualifying entrance examination (Mallam Musa Dantani, 2008). In this aspect of intellectual training when the child grows into adulthood, he was exposed to advanced intellectual training. It was at this level that the child would be introduced to secret societies. Though in the initiation into secret societies have complex training programmes, however, the Gbagyi child was made to master them prior to their initiation ceremony (Fafunwa, 1967:13). As the child attained or reached the age of puberty and became familiar with proverbs and riddles which was an indication that he has mastered them, his teacher who in most cases was *Zakwoi/Nyigbango* - elder would introduced the child to psychology, philosophy, reasoning and judgement (Gaji, 1987:30).

Though, the pre-initiation among the most professional groups like *A'Baiyi/Beri* - herbalists, *A'fazay/A'fadadayi* - hunters, *A'Etsu* - Chiefs and *A'Lako/A'lako* - priests are elaborate and often very complicated, the above on the other hand instituted the high level for younger adults. The admission into the above level according to one source was restricted to Gbagyiwho has demonstrated his capability for growth and ability to keep secrets. It was at this level that the Gbagyi child was taught the secret of power (real or imaginary), native philosophy, science and as well as the elegy of animism. This depends however on the profession, the Gbagyi child wants to pursue in life (Mr. Markus Bawa, 2011). In addition to the above in the intellectual training Gbagyi child was also taught among others the verbal arts which was a type of speech utterance with rudimentary, musical characteristics and how to composed poems which were not a specific of songs but a broader line of spoken art that was concern with ethnomusicologist(Ogundipo, 1970:41). The child was taught how to utter these poems from the memory in chanting style and was used by the child as a verbal salute to particular lineage and distinguished Gbagyi person (Koce, 1990:23).Since these poetic verses were related to a particular Gbagyi festive occasions and various Gbagyi life, the child who was to be initiated into hunting, as a priest, diviner and medicine was taught these oral arts. The ability of the Gbagyi child to recall the appropriate dirge remain a sign that the child has attained intellectualism (MallamMammanShazhi, 2014).

The *FanuAwu/Efabayekpibey* - Agricultural Training

In the area of *efabayekpibey* (Agricultural training), the Gbagyi pay serious attention to the teachings and training as it is the main occupation of the people. Training starts in the family and later to specialization. In the training, the youths were taught how to produce food crops as well as to understand the different planting and harvesting seasons. As the Gbagyi were substance agriculturist, there was strict training in the cultivation of various crops by the Gbagyi (Mr.BajeKubu, 2015). In the course of training, the Gbagyi children were first taught how to distinguish between the fertile and non-fertile soil. The children were shown difference between suitable and unsuitable land. Gbagyiin this period concentrated on the growing of *Shama/Esyi*-yam.In this regard the Gbagyi youth was introduced to different types of *A'shamabey/A'esyibe* (yam seeds) like *Asuba, anacha, paipa, shindo, talibe, zagyi, mana, kpako, angbajeetc* as well as how to make heap and bury them (MrBajeKubu, 2015), to plant and bury the yam the boys also were giving instructions and taught how to weed in farms where seeds were already planted. By this, they would be farmers would be made to work between the father and the elder brothers. In this training the yam seeds were distributed on the heaps. The father who was also the teacher began by burying of the yam, while doing this he will instruct the children to observe very keenly. Like a good teacher, the father allowed the children to practice how to bury the yam. It is said that any of the children that did well was praised and those who did not were reprimanded (Mr.AnyisaloAkpaSheshi, 2015).To test the seeds like corn, maize, okro, melon, millet etc before planting, Gbagyi used two methods. The first-method was by putting some seeds on water, the sink ones were considered good while others were considered to be bad. The second method was by planting some seeds for the purpose of experimentation. Decision were usually based on the results. The boys were given instruction and taught how to make ridges, heaps, and weed on farms where seeds were already planted. By this they would be farmers would be made to work between the father and the elder brothers. In this training all the boys head in the same direction (Mr.BajeKubu, 2015). The father and the elder brother kept watchful eyes on the boys. It is said that if there was any mistake on the part of the boys the father and the elder brother appealed to their good sense, but if the same mistake is repeated corporal punishment would be meted out (je'Adayibe, 1996:18). While the boys were receiving rigorous training on the farms, the girls on the other hand were undergoing training at home under the strict supervision of their mothers. Under the mothers they were taught how to take care of the children, prepare food, wash clothes, cooking and utensils, sweeping and to take care of the dwellings place. The girls were also trained on how to assist their mothers in the different occupations i.e*Shaknumyi/Shakumyibey* (pot making). In addition, the girls were trained and given guide in the preparation for the future roles as brid (Mallama Kaka Shigbe, 2007).

As regard to *Ynakpa/Yakpabe* animal husbandry an aspect of agriculture was not popular among the Gbagyi, the boys however, were taught how to domestic *A'amu-Dogs* which they will use in hunting in the vicinity especially when there was little work on the farm (AlhajiAdamu Hassan Paiko, 2016). Nevertheless, the agricultural training in the Gbagyi education has a far reaching impact. Apart from contributing to the agricultural development, farming has precedence on the socio economic development *Awu'Abwatnui/Tnutnukpmyibe* - Vocational Training. The hand work inEducation-*Beyekpe*youths in this aspect were trained on how to manipulate things by their hands. The children were trained not by their parents but by their relatives, master craftsmen in particular. This according to one oral source is to ensure discipline (Mr Joseph Shekwoya, 2010). In the course of the training, the Gbagyi boys would become a servant to a close relative especially his uncle who will feed and clothe him. After some years he would gradually be introduced to the *'A'bwatnutnu* (craft) of the guardian. Though, *'bwatnutmu* (craft) varied, in the Gbagyi society, however the youth Gbagyi was trained in *Pechelu/jheshanalubey* (mat) and*Cheknulukankpelubey* (basket) making *Zhinata/ynashebey* (carving for shrine) *miapi/pimyiber* (build of house). *Adawi/ A'syukushi* (making of masquerades), *j'hesheby*(weaving)*shakumyibe*(pot making etc (Koce, 1990:23). The vocational training in Gbagyieducation-*Beyekpe* in has enabled the Gbagyi children to grow up as self-reliant and independent.As Gbagyi man gets old and the family has a large number of people doing the farm work, *Pechelu/jheshanah* (mat) and *Cheknulu/Kankpe* (basket) making used to be left with *Azakwoi/A'nyibango* (elders) which they used to sustain their living (MallamKallamuAdamu, 2016).

The *Nyajeku/Ynababye* - Counting

The *Nyajeku/Ynababye* (counting) represents Gbagyi mathematics. In the Pre-colonial era, the Gbagyi of Minnahave developed a system of counting. The child is introduced to concrete objects, counting rhymes, folklores, play, games at home and on the farm. The children in the course of training in counting, were introduced to the use of *woka*(cowrie shell). This afforded them with an effecting means of remuneration. Beside this, since the Gbagyi have a name for every counting number, in the course of training the Gbagyi youths were taught how to count in number like *Nnu/Gbayi*- 1, *Nmba/Guaba-2 Nta/Gwasha-3Nnyi/Gnwanyi-4Nnthu/Gnuatnu-5Thayi/Tuawyi-6Nwaba/Tyaba-7Nyimwanyim- wa/Tyasha-8 Ciwagmanyi/*Tnanyi-9 *Awo/Gwawo-10* (Mr Daniel Yakubu, 2010). Apart from the above in pre-colonial era's mathematicsthere were cardinal and ordinals. The Gbagyi has concepts of cardinal and ordinals as

well as certain fractions such *Yebodo- /A'bwedo* - addition, *Kniya/Kneya*-subtraction, *A'kubegye/A'kabha*- multiplication, and *Anyagnazhi/Ghafi* - Division. Similarly, there were*N'anubegye/Shna'a* - equal to, *Ngnagba/A'Siron* - less than, *Ndubegye/pye* - greater than, *osmun/Bwo'dna 'gye'ba* - equal to, *Aknidnantaghi/Ewo* – percentage (MallamSaiduAdamu, 2014).

The knowledge of mathematics was not only taught to the child at home but also on the farm. The Gbagyi measured his farm by the number of yam heaps that could be accommodated. For example, three thousand heaps are taken as equivalent to one acre that is six heaps to ten thousands. Beside, this after harvest of *shama/Esyi* - yam, the knowledge of Arithmetic's was again brought into play. The Gbagyi youths were made to count the yam set after harvest. During the counting the father who was the teacher would pretend to be taking less interest in the counting, but he set his watchful eyes on the boys so that as they made mistakes, they would not only be subjected to all sorts of condemnation but also would receive blows on their backs (MalamTunkuGarba, 2014).There were games in the indigenous Gbagyi mathematics. These games required skills in counting and a good example of this was *Esin/Essi* -local ludo which,this was a local display that formed a complex numerical number for easy calculation in Gbagyi mathematics. The number begins with 48 seeds and 12 holes. Each of the hole take 4 seeds by 6=24, Then 24 by 2=28. Each of the hole scores begins with 2.3 and could be multiplied by its *Essen/Essinbabere* - seeds to score the six holes of 6 and 3 multiply 6 to win the operate (MallamSaiduAdamu, 2014).

The *GbedoguNyezh/Ezhigbedognu* - Community Participation

Community participation was another aspect of training in education-*Beyekpe* of the Gbagyi. In this children were taught how to appreciate their role as a member of their immediate community, extended family and community in general (Iyasare, 1994:20). A newly born child becomes the child of every one and not only in the households, uncles, aunts, and counsins, but also friends and neighbours, this is the reason why the training of the child was not done by the mother alone but everyone in us immediate environment (Shekwo, 1996:45). It is said that in the pre-colonial era if the child is old enough to learn a specific occupation, especially not *Fanu/Fanubey* farming which was Gbagyi original occupation, the child would be sent out to learn apprentice to a master of that occupation or profession who may not be friend of his family. Even if the occupation is practiced in the child's family especially he may be sent to another household to remain there to take the training seriously (Adamu, 2007:22).Like their African counterpart, the Gbagyi as observed were not necessary best teachers when it comes to specialized vocational skills, however, in the fields such as *Fanu/Fanubey* - Agriculture, *Fada/Fadabey* - hunting *Shigbe/shigbe* - medicine, Gbagyi trains their children and with not objection taking of other children as wards or apprentices (Dikko, 1988:28).

In the education of the Gbagyi, age groups were very important. Generally, they were not only engaged in communal work and helping other members of the group in clearing and planning, harvesting, but also helped the community in road building or *A'Etsu* - Chiefs in performing a given task or assignment (Shaba 1994:20). Furthermore, in the community participation the Gbagyi youths were taught to assist his *Azabe/A'zabey* - relatives and neighbours when they are in difficulty. The Gbagyi child did this by paying the contribution levied by his age groups, extended family, uncle, Chief etc. as the case may be (Shaba, 1994:20).In community development, the child was taught how to be his brother keeper as well as how to share the joy and sorrow. The child demonstrated this when there is marriage, birth and death not only in the family but the community at large (Shaba, 1994: 20).The training of the Gbagyi child in the community participation did not only enable every member of the community to regard any occasion in the community as his own but also has allowed a member to be joined by his friends, age groups, associates as well as others connected with him social and otherwise in the ceremonial observance of a close or distant relatives, marriage, birth days or death. This corroborates the saying of a scholar that:

> there are three great events in the life of the people in the rural areas, the day they get married, the day they are born and the day they die (Fafunwa, 1974:40).

The *Asappa/A'badnu* - stages of Training in GbagyiEducation-*Beyekpe*

The Gbagyieducation-*Beyekpe* in the pre-colonial era, like the traditional education in Africa, there were training in the areas of *Awegu/wyegunwabey* - socialization, *Khunubawu/Knunubawu* - cultural instruction, and *Abwatnutnu/Tnutnuyekpibey* - vocational training. The training of the Gbagyi youth and children were handled by each *A'piatukoda/pidagai* house heads and *A'byizakwoyi/A'zamaigo* - parents who taught the youth and children on the above aspects (MrGhaniShadnagbe, 2010). However, in Gbagyi of Minna Area *Beyekpe* - education there existed certain stages of training namely:

(a) The *SapaNawi/BadnuKuciyi* - Lower stage of Training

(b) The *SapaNabayi/Badnushebwai* - Higher stage of Training.

a. The *SappaNawi/Badnukuciyi* - Lower stage of Training.

This stage of training in Gbagyieducation, is synonymous to nursery and primary schools on the modern day western knowledge system. The pupils at this stage are made up of children whose ages range between 4 and 5 years. The training of children at this stage took place simultaneously and was done by the *A'byizakwoyi/A'zamaigo* - parents, *A'dnabma/A'dnabama* Elder brothers, *A'magwoi/A'magwoi* - sisters, *A'byibe/A'byizabai* - child's senior relatives and community as a whole (MrGhaniShadnagbe, 2010). The above persons gathered at leisure time particularly in the evening to teach the children, toileting, eating rules and regulations, socialization and general behaviours. It is at this stage that the child imitates his mother. It is through the mother that the child among others learn how to smile, frown his face or weep and greet members of his households, community and stranger (Mr. ZagiDangbe, 2010).It is also at this stage, the training, the child received he becomes curious about things around him which as a result of this made him to realize that there are other world's outside his own. Similarly, this stage provides the child with opportunity to notice other around him. As a result of this development he learns how to manipulate things and plays with any objects that is easily accessible to him. The child at this stage is also trained to restrain from doing certain things that are considered repugnant to the norms, customs and traditions not only of his households but also the community as a whole. To check the above, the teachers who are his parents and siblings may introduce outright threats or taboos (Mr.ZagiDangbe, 2010).

Furthermore, it is said that when the Gbagyichild reached the age 5 years, in some families, the child's grandparents, uncles and aunts will at this point became more involved in the training of the child. As teachers, the above persons in some occasion will not only send the child on errand but will also taught him to be obedient, respect the elders of the households, community, code of behaviour history of his family or ethnic group.The lower stage of training in the education of the Gbagyi,in nutshell was very important, for it allowed the acquisition of some useful knowledge by the child, an avenue through which the Gbagyichild was trained for adulthood and for higher stage of training in their life (Mr. ShekwogazaWumenze, 2015).

b. **The *SappaNabay/Badnushebwai* - Higher stage of Training**

The higher stage, the training was meant for adulthood, who have demonstrated their ability for further growth and ability to keep

secret are admitted into this stage. It is at this stage that the child learned the secret of power (real imaginary, native philosophy and science as well as theology of animism which depended on the profession the Gbagyi adults of Minna Area in the pre-colonial era wish to pursue in life. The teacher at this stage who were *A'Baiyi/A'Beri* – Herbalist, *A'fazayi/A'nagbai* – Hunters, *A'Etsu* - Chiefs, *Ashyachigo/A'shmasntuizagoi*- cult leaders, *A'Lako* - priests and *Myisala/Myeznu* - peer group within the society were professionals in the system in the pre-initiating training (Mr.Takpaize Musa, 2010).

The end of each stage which was demonstrated by age, level of years of exposure, theGbagyi child was given practical test relevant to this experience and development and in terms of the job to do (Sada, 1996:33). This is synonymous to the continuous assessment in the western philosophy education. The continuous assessment to be noted culminated in this initiation into adulthood: From the above analysis it is evident that the Gbagyieducation-*Beyekpe* in the pre- colonial era as observed has a structured stages of training which facilitates the movement of the Gbagyi youth from one stage to another (Mr.ZagiDangbe, 2010).The above developments as observed, made it possible for Gbagyi youths to learn different skills which enable him to build his code of manners and morals which made him fit for his environment and contributed in making the education system relevant and significant which a typical Gbagyi utilizes in the development of his society (Mr Daniel Shaba, 2014).

The *Nyasisi/Bwobegye* - Significance of Education-*Beyekpe*

The Gbagyeducation in the pre-colonial era was not only functional, but the curriculum was relevant and was serving the needs of the Gbagyi of Minna Area in many ways. The system inculcates and develops in the Gbagyi youths abilities, attitudes and other forms of behaviours. The above has made it possible to checkmate the bad character/behaviour on the part of an individual which could be inflicted on immediate and extended families and community at large. This development apart from changing the face of the Gbagyi has contributed greatly in building a good character behavior in Gbagyi and the society he lives (Shaba, 1994:30). The system brought transmission of culture in terms of continuity and dissemination of knowledge among the Gbagyi child or youth adults. The significance of the above was that it ensured social control of the Gbagyi and his society (Mallam Muhammad Angulu, 2015). Also the training and orientation of the Gbagyi youth adults on various aspects of life was significant. The Gbagyi youth was trained not only on how to respect his elders, bow or crouch to greet and how to offer food and water to welcome a visitor, but was given an orientation on various vocations. The training and orientation on various vocations. The training and orientation which goes on throughout life made the Gbagyi youth to be fit for his environment which enables him in the period to promote, transmit and perpetuate the norms of the Gbagyi and his society (Mallam Muhammad Angulu, 2015).

In the same vein, the Gbagyi knowledge system also inculcated in Gbagyi youth the habit of taking care of the old, sympathy for the weak and to be honest, obedient and humble. The above cultivate in the Gbagyi youth the habit of kindness which enable him to help the sick and diseased families, take responsibilities of other people and prepared him for a normal life. This made it possible for him to be acceptable member of Gbagyi society (Sada, 1996:34).

In addition one of the important ingredients which the education brought to Gbagyi is in the area of employment opportunities. The Gbagyi youths in the period were trained in farming, hunting, carving, weaving, healings etc. These professions provide the Gbagyi with his needs like food crops, meat, motars, clothes, medicine etc. The elders including the youths were fully engaged in the various occupation. The youth/adults in particular were not seen roaming the streets thus, indicating the absence of unemployment in the pre-colonial Gbagyi society (MrWakiliYahubu, 2010). From the above analysis, it is evident that the Ghagyi in the pre-colonial era have a knowledge system which contains great deal of wisdom and insight that guide the Gbagyi on how he can live and interact not only with his environment but also the wider world.

Conclusion

This paper examined the education-*Beyekpe* among Gbagyi of Minna Area in the pre-colonial era-The study have presented a valuable information and glimpsed the story of the education-*Beyekpe* among the Gbagyi. The characteristics of the education of the Gbagyi are collective and social nature, social life in both material and spiritual sense, multivalent character both in terms of its goals and means employed, gradual and progressive achievement in conformity with successive stages of physical, emotional and mental development of the Gbagyiwere highlighted in the paper. The aim and objectives of the education of the Gbagyi reveal in the paper show that the aim of the education was multilateral and the objective was to prepare the Gbagyi morally and vocationally so that, the Gbagyi individual will not only be good enough to shoulder the responsibility of life and to be honest, respectful, skilled, cooperative to conform with the social order of the day but also to develop intellectual skill, sense of belonging, participate actively family and community life. The paper also reveal the patterns and stages of training in Gbagyi education and disclose that in the pre-colonial era while there was no designed curricula but there were ways in which the Gbagyi youths are giving various training which enabled them to participate in various activities in life, stages of training on the other hand are two: Lower and Higher stages of training. The paper also throw light on the significance of the Gbagyi education to the Gbagyi and discovered that in the pre-colonial era, the knowledge system was a guide which influenced the Gbagyi way of life and also enabled the people to acquire pattern, ability and skills necessary for effective citizenship in the community the Gbagyi lives.

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APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN MANAGEMENT OF STUDENTS' RECORDS IN CROSS RIVER UNIVERSITY OF TECHNOLOGY– (CRUTECH) CALABAR -NIGERIA.

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ABSTRACT
This study investigates the application of Information and Communication Technology (ICT) in management of students' records in Cross River University of Technology - CRUTECH, Calabar. Survey design was adopted for the study while three research questions and three hypotheses guided the study. The population of 15 CRUTECH DMIS records officers and 129 University Administrators and examination officers were randomly selected from the faculties and departments in the study area. Questionnaires were used to collect data and Pearson's product correlation coefficient used to analyze the data obtained from the field work. The results revealed that application of information and communication technology has significant influence on the accuracy of CRUTECH students information in the school management information system, timely and up-to-date of CRUTECH students information in MIS also has significant influence on the application of information and communication technology and applicable to regular appraisal of the directorate of MIS in the study area. Based on the findings, it is recommended among others that Deans of Faculties, Deads of Departments, examination and Records Offices of the university should organize orientation programme for their staff on how to use ICT facilities for accurate and timely up-to-date students records keeping.
KEYWORDS: ICT, Management, Students Records, Records

INTRODUCTION

For several years students' records were usually saved and preserved for future purposes on papers, files and folders without any electronic devices. This makes the retrieval process very difficult and cumbersome. After many years of students' graduation from their respective institutions of learning, information like results, bio-data and progress report during their school years are not availably ready which usually pose a setback and frustration sometimes. This could be through transfer of files due to infrastructural change or lack of digitization through the use information and communication technology. In order to contain this problem the management of Cross River University of Technology (CRUTECH) introduced the Directorate of Management Information System (MIS). Regrettably, since the inception of DMIS in CRUTECH, this problem still lingers; accuracy in students' information as well as timely update of students' records still need attention.

Adequate management of students' records underpins decision making, protects rights of students and helps universities conduct business and services in a consistent, effective, efficient and equitable manner. Contemporary world is characterized by revolutionary advances powered by Information and Communication Technology (ICT). The world is being reduced to a global village through the use of information and communication technology. Information and Communication Technology (ICT) promotes national development and better relationship with other nations. Information and Communication Technology (ICT) refers to the electronic and communication devices associated with human social materials that enable the individuals to use them for a whole range of instructional process (Thankgod & Ucheju, 2021). Information and communication technology facilities are described as all the equipment available for the identification, generation, processing, storage, packaging, preservation, and conservation and sending of information, regardless of time and location challenges with maximum accuracy. In other words, Information and Communication Technologies are information handling tools used for producing, storing, processing, distributing and exchanging of information. Information and Communication

Technology (ICT) facilities influence and affect people's‟ and corporate work life in one way or the other (Thankgod & Ucheju, 2021).

Chiwanza and Mutongi (2016) identified number of implications of not having proper records management in higher institution of learning such as; failure to have history of the organisation; fading away of institutional memory; arbitrary decision making; repetition of tasks which leads to waste of resources and time; failure to provide accurate students results; unable to trace students records if they come for reference years later; unable to reconstruct after a disaster etc. Other implications are difficulties in accounting for any decisions taken (Nyathi & Peterson, 2017), delay in decision making, overlapping of authority and responsibility among human resources and Registry staff. Muhammad, Isa, Samsudin and Miah (2020) stated that Universities in Nigeria aspire to be on the global map with better international rankings. Regrettably, they are overwhelmed with inefficient administration and management due to poor management of records and information. From the review of the literature it appears that academic records management in Nigerian Universities is not given the proper treatment. The picture is dejected; the records being kept without proper care, no RM strategies, no adequate funding, there is lack of top management commitment towards RM, lack of training programme for staff handling university records. This suggests that students' academic records are not adequately managed as a result the Universities as well as the students may suffer some consequences.

In the management of students' records in tertiary education, Nwaomah (2015) stated that students' records can be organized into three broad categories. The first category refers to records documenting the contractual relationship between students and the institution. This includes records documenting admission and enrolment, payment of tuition fees, academic and non-academic disciplinary proceedings. The next category consists of records "documenting the student as a learner such as records documenting programmes undertaken, academic progress and performance awards. The last category is records documenting the student as an individual and consumer of services provided by the institution. In this category are records documenting use of accommodation services, counselling services, library and IT support services, careers and employment services' (JISC/InfoNet, 2007). These records are important because there serve as major information tools that protect students' rights, such as the right to ownership of a degree with the right class, documented through academic cumulative records (scholastic performance). For example, organizations and institutions in Nigeria rely on universities' authentication of certificate/transcript claims. Otherwise, employment or admission for postgraduate study can be denied or compromised as a result of incorrect or lack of authentic records or failure to retrieve records. Students' records, whether in paper or electronic format, are important resources for universities and are expected to be harnessed through effective records management practices.

The smooth running of any higher institution depends on effective and efficient records management. Unfortunately, many years of neglect had done great damage to records management in the educational sector. Eguwunyenga (2009) maintains that personnel who maintain registry system with filing cabinets containing paper evidence of university business are inadequate and, in fact, ignorant of their responsibilities. Therefore the use of contemporary information system become sacrosanct for effective and efficient not only to store students' information but to transmit it to any part of the world when necessary. It is on this note that this study is prompted to address application of Information Communication and Technology (ICT) in Management of Students' Records in Cross River University of Technology.

Academic records are vital documents that contain valuable information related to students programmes in schools. Records of different types are received in tertiary institutions in Cross River University of Technology (CRUTECH). Part of such records include students' academic records such as students admission files, admission letters, payment records, medical records, continuous assessment records, examination scripts, examination results, accommodation records, end of semester academic progress report among others (Shehu, 2017). More so Ibiam (2004) noted that many years of neglect had done great damage to the education sector and records keeping are not an exemption. The purpose of record keeping for efficient and effective school management is to ensure that accurate and proper records are kept on students' achievements and growth, school activities and matters that will promote school efficiency and effectiveness. Students' academic records are splendid and paramount in any organisations especially in higher learning institutions which create, organize, preserve and retrieve the information. Students' academic records in higher learning institutions CRUTECH, Calabar comprised the office of the registrar, examination and records office, Bursary office, library department, registry open and secret and Directorate of Management information systems among others.

Students' academic records, as outlined by Dalton (2014) cited in Dano and Ibrahim (2021), is a section that reviews the accuracy of students' data upon students matriculations and is responsible for maintaining

all academic records. This maintenance includes ensuring that all changes to students' records, such as name changes and grade changes are done accurately and according to university policy. Richard (2005) of the University of Washington proposed single records management archives goals: responsible records use and administration leading to either authorized destruction or archival preservation and administration. Mohammed (2011) posited that in LivingStone International University Uganda Campus, information management records are kept every semester, and at the end of the year, the summary is done. The recording is done by the secretary, registrar of the students records in LivingStone the university with the latest technology or advance technology and they are still used paper based methods during recording whereby it take long time to capture one's information from paper into system and yet they have daily activities to do (Benetti, 2011).Management of students' academic records in higher learning Institutions in Nigeria faced a lot of challenges which according to Maidabino (2003) include inadequate fund, poor training, lack of adequate infrastructure and modern technology; which generally affect the organisation and preservation of records. Shehu (2008) reviewed the literature on problems affecting records management in organizations from a general and global to regional (African) and Nigerian public sector perspectives, this review made Dano and Ibrahim (2021) to submit that despite the invaluable roles records play in organisations, officials often exhibit misconceptions and indifference to the management of records, which have been hindering public accountability. In another report Akussah (2006) stated that all African countries face problems in maintaining and developing their records, as it relates to records associated with the activities of appraisal, accessioning, description, arrangement, preservation and conservation of records. According to Attwood and Grill (2008), the challenges of records management are inadequate qualified personnel, increasing students' population and inadequate storage space. Lawal (2007) attributes the challenges associated with organisation's records management to inadequate funding, lack of facilities, and infrastructure. Brendan (2012), observed that the major challenges associated with records management are weak legislative and organizational infrastructure (ICT tools). Mutual and Wamukoya (2009), reports the challenges in records management as lack of institutional plans for managing electronic records, inadequate knowledge about the role of records management in ensuring efficiency and accountability, inadequate stewardship and coordination in handling records, lack of legislation, policies and procedures to guide the management of records, lack of requisite competencies in records and archives management, insufficient budgets allocation for records management, poor security and confidentiality controls, lack of records retention and disposal policies, and absence of migration strategies for electronic records. Studies by Mutual and Wamukoya (2009); Iwhiwhu, (2005) and Eguwunyenga (2009) indicate that African records keepers lack the basic skills and competencies for handling librarians, records and archives. Inadequate skills in information technology made many traditional librarians, records managers, and archivists very conservative and have phobia for computers. Kemoni, (2009), reports that many countries in Eastern and Western Africa lack the capacity in electronic records management. Identifiable areas of deficiencies and challenges in managing electronic records include lack of policy and legislation, Standardisation, authenticity, capacity building, physical infrastructure and lack of awareness among record keeping professionals and government authorities on electronic records management issues.

Appraisal is a systematic, general and periodic process that assesses an individual employee's job performance and productivity in relation to certain pre-established criteria and organizational objectives (Muchinsky, 2006, Broady-Preston, 2000). Other aspects of individual employees are considered as well, such as organizational citizenship behaviour, accomplishments, potential for future improvement, strengths and weaknesses, etc. Muchinsky (2012). To collect Appraisal data, there are three main methods: objective production, personnel, and judgmental evaluation. Judgmental evaluations are the most commonly used with a large variety of evaluation methods. Historically, Appraisal has been conducted annually (long-cycle appraisals); however, many organizations are moving towards shorter cycles (every six months, every quarter), and some have been moving into short-cycle of weekly and bi-weekly Appraisal (Muchinsky, 2012; Manasa & Reddy, 2009). The interview could function as "providing feedback to employees, counseling and developing employees, and conveying and discussing compensation, job status, or disciplinary decisions" (Groove, 2002). Appraisal is often included in performance management systems. Appraisal helps the subordinate answer two key questions: first, "What are your expectations of me?" second, "How am I doing to meet your expectations?" (Sudarsan, 2009). The objective of appraisal is to access the performance of either organization as a whole or individual working collective to achieve the overall goal/objective of the organization.

The focus of the appraisal of the Directorate of Management Information System is to measure and to improve the actual performance of the directorate and also the future potential of the directorate. Its aim is to measure what a staff does. Shelley (2019) considers Performance Appraisal as a systematic way of

reviewing and assessing the performance of an employee during a given period of time and planning for his future. It is a powerful tool to calibrate, refine and reward the performance of the employee. By focusing the attention on performance, appraisal goes to the heart of human resource management and reflects the management's interest in the progress of the employees.

The above expositions establish performance appraisal as a clear and concise, regular and unbiased system of rating an employee's performance in her current position, which can also be used to determine how far the employee can go in career development. The benchmarks of such appraisals are usually the job description in tandem with stated organization's objectives. An organization engages a person for the purpose of employing his skills to achieve certain goals and objectives (likewise CRUTECH Directorate of Management Information System is not only to provide formal system where staff and students profiles are catalogued and automated thereby providing management with accurate, timely and up-to-date information necessary or decision making, but to also reorganize the directorate to reposition it for effective service, reconfiguring the result processing software since the online server has not been paid for but needed to process results and construct a server room, correction of students' school fees error, update students' profile, conduct SUG elections among other activities (DMIS, 2017)). Often, the employer needs to take stock and determine the value of each employee, his potential, and what his future in the organization is likely to be. In the researchers' opinion this is accomplished through the practice of performance appraisal.

In view of the invaluable role of ICT in modern era, and its introduction to the management of information in CRUTECH, this study was undertaken to examine its application by MIS Directorate in CRUTECH with recourse to accuracy, timely and up-to-date students' records keeping.

OBJECTIVES

The overall objective of this study was to examine the application of information and communication technology in management of students' records in Cross River University of technology – Calabar, Nigeria. The specific objectives includes the investigation of the relationship between:

i. Application of ICT and accuracy of CRUTECH students' information in the University Management Information System;
ii. Application of ICT timely and up-to-date students' records keeping in the University Management Information System; and
iii. Regular appraisal of the directorate of MIS and students' record keeping in Cross River University of Technology.

HYPOTHESIS

The following hypotheses were formulated to guide the study:

i. There is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System;
ii. There is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System; and
iii. There is no significant relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology.

METHODOLOGY

Survey design was adopted for this study. This design was use in this study because it is economical, allowed a large population to be studied with less expense and it findings can be generalized to other areas outside the study area.The study area is Cross River State University of Technology (CRUTECH); CRUTECH is located in Calabar South Local Government Area of Cross River State. CRUTECH has 8 Faculties and 21 Departments. The population of 15 CRUTECH DMIS record officers and 129 university administrators and examination officers were randomly selected from the Faculties and Departmentsin the study area. A structured questionnaire tagged"Application of Information and Communication Technology (ICT) in Information management system and Students' Records Questionnaire" (AICTIMSR) containing 20 itemswas the instrument for data collection. The instrument was first validated by three (3) experts: these experts scrutinized the instruments in terms of suitability and was administered to respondents to get the reliability coefficient of the instrument. After administration of the instrument internal consistency reliability was computed using Crombach Alpha (a) with an overall index of 0.79. This was considered to be appropriate for the study. Pearson's Product Moment Correlation Coefficient was used to test the hypotheses at 0.05 level of significance

ANALYSIS

Hypothesis one

There is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System. Data collected in respect to this hypothesis

were tested using Pearson Product Moment Correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is presented in Table 1.

TABLE 1
Pearson product moment correlation coefficient analysis of the relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System(N=144)

	Accuracy		
	S.D	r-cal	
Application of Information Communication Technology	16.77	1.46	0. 25
Accuracy of Information Communication Technology	57.61	13.67	

Significant @ 0.05, critical r= 0.195, df = 142

The summary of results presented in Table 1 above shows that the calculated r-value of 0.256 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the null hypothesis was rejected while the alternate hypothesis was upheld. This means that, there is no significant relationship between application of ICT and accuracy of CRUTECH students' information in the University Management Information System.

Hypothesis two

There is no significant relationship between application of ICT and timely and up-to-date students' record keeping in University Management Information System. Data collected in respect to this hypothesis were tested using Pearson product moment correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is presented in Table 2.

TABLE 2
Pearson product moment correlation coefficient analysis of the There is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System (N = 144)

Variables			
	S.D	r-cal	
Application of Information Communication Technology	17.14	1.39	0.26
Timely and up-to-date of CRUTECH students' information in MIS	57.61	13.67	

Significant @ 0.05, critical r= 0.195, df = 142

The summary of results presented in Table 2 shows that the calculated r-value of 0.264 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the null hypothesis was rejected while the alternate hypothesis was upheld. This means that, there is no significant relationship between application of ICT, timely and up-to-date students' record keeping in University Management Information System

Hypothesis three

There is no significant relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology. Data collected in respect to this hypothesis were tested using Pearson product moment correlation coefficient analysis. This is because both the independent and dependent variables that form this hypothesis were measured continuously. The hypothesis was tested at 0.05 level of significant. The summary of result is as presented in Table 3.

TABLE 3
Pearson product moment correlation coefficient analysis of the relationship between regular appraisal of Directorate of MIS and effective students' record keeping in Cross River University of Technology(N = 144)

Variables		
S.D	r-cal	
Regular Appraisal of the Directorate of MIS	17.00	1.40

0. 24

Effective students' record keeping 57.61 13.67

Significant @ 0.05, critical r= 0.195, df = 142

The summary of results presented in table 3 above shows that the calculated r-value of 0.246 is greater than the tabulated r-value of 0.195 at 0.05 level of significance with 142 degrees of freedom. On this note, the null hypothesis was rejected while the alternate hypothesis was upheld. This means that, regular appraisal of the directorate of MIS has a significant influence on Students' Record Keeping in Cross River University of Technology.

DISCUSSION

Findings were discussed based on the outcome of the result.

In the first hypothesis findings revealed that there is a significant relationship between Application of ICT and accuracy of CRUTECH students' information in the university Management Information System. This implies that with adequate measure put in place to drive ICT in CRUTECH, students' information in the data base will not only be secured and protected but easy assesibility will be ensure equally which will enable the system drive effectively in this ICT age. This is supported by Thankgod and Ucheju (2021), they gave explanation that information and communication technology facilities are described as all the equipment available for the identification, generation processing, storage, packaging, preservation and conservation and sending of information, regardless of time and location challenges with maximum accuracy.

It is revealed in the second hypothesis that, there is a significant relationship between application of Information and Communication Technology (ICT) and timely and up-to-date of CRUTECH students' information in the university Management Information System (MIS). This implies that with dedicated and hardworking staff of MIS students' information are timely and up-to-date. This findings is in agreement with Chiwanza and Mutongi (2016) who identified number of implications of not having proper records management in higher institution of learning such as; failure to have history of the organization; fading away of institutional memory, arbitrary decision making; repetition of tasks which leads to waste of resources and time; failure to provide accurate students results; unable to trace students records if they come for reference years later; unable to reconstruct after a disaster etc. Other implications are difficulties in accounting for any decision taken.

It is revealed in the last hypothesis that, there is a significant relationship between regular appraisal of the directorate of Management Information System (MIS) and students' record keeping in Cross River University of Technology (CRUTECH). This implies that constant evaluation or assessment of MIS staff and adequate entitlement given in conjuntion with enabling environment, efforts in improving in its efficiency will be at the top-most priority which will inturn manifest in proper students' record keeping in the said university. This is in line with Sudarhsan (2009) who state that the objective of appraisal is to access the performance of either organization as a whole or individual working collective to achieve the overall goal/objective of the organization. Performance appraisal systems are employed "to manage and align" all of an organization's resources in order to achieve highest possible performance (Muchinsky, 2012). That is, a well-organized and purposive appraisal improve the performance of staff which in turn translate into the general growth of the organization.

CONCLUSION

From the findings, it has been concluded here that ICT application is crucial to students' record keeping in CRUTECH. There is a significant relationship between application of ICT and management of students' records as it enhances accuracy as well as timely and up-to-date record of students' data in MIS. Furthermore, appraisal of MIS directorate is very necessary for effective record keeping in CRUTECH.

RECOMMENDATIONS

Based on the findings and conclusion of the study, the following recommendations are put forth:

1. Deans of Faculties, Departmental Heads and Office of Examination& Records officers of the University should organize orientation programme for their staff on how to use ICT facilities for students' record keeping.
2. There should be free and compulsory ICT lectures for MIS staff by providing them with practical and functional knowledge of the computer, the internet and associate areas of ICT for record keeping.
3. The university quality assurance unit and office of the Deputy Vice Chancellor Administration

should ensure regular appraisal of the directorate of MIS with the view to having them performing optimally.

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