ATTITUDE OF SECONDARY SCHOOL TEACHER LIBRARIAN TOWARDS USE OF INFORMATION TECHNOLOGIES (IT) FOR INFORMATION PROVISION IN KADUNA STATE

BY

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL AHMADU BELLO UNIVERSITY, ZARIA,

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DECLARATION

I hereby declare that this thesis entitled "Attitude of Secondary Schools Teacher Librarian towards Information Technology (IT) for Information Provision in Kaduna State" had been written by me under the supervision of Dr. Ezra Shiloba Gbaje and Dr. (Mrs) Hannatu M. Daudu that it has never presented anywhere, either wholly or in part, for the purpose of the award of a degree. All literature consulted and cited were fully acknowledged within the text and by means of references.

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Signature Date

CERTIFICATION

This thesis entitled "ATTITUDE OF SECONDARY SCHOOLS TEACHER LIBRARIAN TOWARDS INFORMATION TECHNOLOGY (IT) FOR INFORMATION PROVISION IN KADUNA STATE" meets the regulation governing the award of Master Degree in Library and Information Science (MLS) of Ahmadu Bello University, Zaria- Nigeria and is approved for the contribution to knowledge and literary presentation.

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DEDICATION

This research work is dedicated to Almighty God for his mercies and divine protection upon my life. To my husband, Dr Williams Bako Gwari and my children Shuroh (Thank you), Tiro (Praise), Jeh-Nom, and Gye-Nom (Divine) for their prayer, support and encouragement.

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ABSTRACT

Information technology has been regarded as the most important dimension of human technological advances in this 21st century. It is seen as a basis for development in any society. For the Nigerian nation to benefit from this advancement, it is necessary that the knowledge be transmitted through the schools to learners who are prospective leaders of the nation. Teacher librarians are information specialists who work collaboratively with classroom teachers in planning, teaching, and evaluating students. Teacher librarian is an individual who hold both recognized teaching qualification and qualification in librarianship (ASLA, 2007).The study aimed at examining the attitude of secondary schools teacher librarian towards information technology in Kaduna State, with regards to types of information technology being used by teacher librarian, attitude of teacher librarian toward information technology, level of usefulness of the available information technology in the schools and used of available information technology by teacher librarian as well as factor affecting the attitude of teacher librarian toward information technology in secondary schools. Survey research method was adopted. Thus two hundred and sixty four (264) was used as sample size for the study. Questionnaire was the instruments used for data collection. The data collected were presented and analysed using descriptive statistics. The study found that computer, typewriter, computer printer respectively were the major types of information technology available in the schools. Teacher librarians have positive attitude toward information technology as shown in the score of 240 foe respondents who opined that information technology can enhance students learning. The major limitation in the use of information technology is electricity and most modern information devices required the use of electricity to power them. The inferential analysis showed that the teacher librarians' attitude towards information technology is not significantly influenced by the available information technology devices in the schools, and there is no significant relationship between teacher librarians' attitudes towards information technology and their usage of the available devices in the schools. The study concluded that teacher librarians in Kaduna state secondary schools have a highly positive attitude towards the use of information technology for teaching and learning. Inadequacy of IT resources, lack of confidence, anxiety, inadequate training, lack of access to technology, poor infrastructural/social facilities and epileptic power supply were some of the constraints that significantly influenced the teacher librarians' attitude towards IT usage in secondary schools. As one of the ways to deal with some of the constraints that influence the teacher librarians' attitude towards IT usage in secondary schools, effort should be made at improving the provision of power supply. Where the national power is not available, provision for generators for local supply could be considered as an option.

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LIST OF ABBREVIATIONS

ASLA	-	Australian School Library Association
ATLC	-	Association of Teacher Librarians Canada
CEL	-	Common Essential Learning
Ho	-	Null Hypotheses
ICT	-	Information Communication Technology
IT	-	Information Technology
NPE	-	Nigerian policy on education
NPIT	-	National Policy on Information Technology
TAM	-	Technology Acceptance Model
TRA	-	Theory of Reasoned Action

CHAPTER ONE

1.0 Introduction

1.1 Background to the Study

Information Technology (IT) represents one of the important dimensions of human technological advances in contemporary times. Information Technologies (ITs) are electronic technologies used for accessing, processing dissemination of information. According to Ibrahim (2011), Technology is the infrastructure used to create, store, transmit or share information. Information Technology includes both digital information and communication technologies. Harris (2005) described Information Technology as “any form of technology or equipment used to access information, manipulate it and exchange it”.

Kofi (2001) stated that "A technology revolution is transforming society in a profound way. If harnessed, and directed properly, Information Technology (IT) have the potential to improve all aspects of social, health, economic and cultural life of the people".

The growth of globalization and technological change process over the last twenty years has brought about the emergence of what is known today as "global economy" "powered by technology, fueled by information and driven by knowledge," (United States Department of Labour-USDL, 1999). The emergence of this new slogan directly or indirectly affects the very nature and purpose of educational institutions.

With the increasing growth in the need for information and knowledge, and the exponential growth in their access, there is a strong challenge for schools to shift from the traditional methods of being just mare venues for the transmission of a prescribed knowledge/information from teacher to students in a given time and place to what

Thornburg (2000) called the principles of "learning to learn" (the knowledge and skills of possible continuous learning). This is because, illiteracy in the 21st century according to Tinio, (2002) will not be inability to read and write, but the inabilities to learn, unlearn, and relearn.

Education may be either formal or informal. According to Brickman (2008), formal education is that intentional and more or less systematic effort to affect the behavior of others, while the informal education has to do with the way people learn to adapt their behavior to that of their environment. Formal education is usually acquired in three stages of Primary, Secondary, and Tertiary Institutions (Colleges and Universities).

Primary education is the earliest program of education for children, beginning generally at the age of five or six and lasting from six to eight years. In most countries elementary education is compulsory for all children, just as the case in Nigeria though not fully enforced. Secondary education which is the concern of this study is a program of public education immediately succeeding the Primary level. The third stage which is the tertiary level of education is a period of advanced study following the completion of secondary education. The duration of the study may be from four to seven years or more, depending upon the nature and complexity of the programs pursued.

According to Annaraja (2006), Education is accepted to play a key role in achieving community development in the process of globalization through technological development. This can be achieved by introducing information technology (IT) in teaching-learning process.

1.1.1 Nigerian Government Policy on Information Technology Education

Like many other nations, Nigeria has been making effort to be part of the global community in the information revolution. The issue of IT in Nigeria education started way back 1980 when computer was first introduced into secondary schools in 1988 precisely with training programs for teachers. At that time, only the Federal Government Colleges were used as pilot schools. Since then however subsequent administrations have been tying in this regards to ensure that the success of the program which will put Nigeria in the list of nation utilizing IT for pedagogical delivery.

In the year 2004, the Nigerian policy on education (NPE)was reviewed in this regard and integration of IT in education was one of such areas addressed. According to the revised NPE, (2004) it was stated amongst other thing that ,"Government shall provide necessary infrastructures and training for the integration of IT in the school systems in recognition of the role of IT in advancing knowledge and skills in the modern world."

In the National Policy on Information Technology (NPIT) on the other hand, which is another government policy document on IT in Nigeria, the vision statement is "To make Nigeria an IT capable country in Africa and a key player in the Information society by the 2005, using IT as the engine for sustainability development and global competitiveness". Part of the strategies according to the policy is" restructuring the education system at all levels to respond effectively to the challenges and imagined impact of the information age and in particular the allocation of a special IT development fund to education at all levels.

1.1.2 Importance of Information Technology in Education

Today's educators use technology to access information with increasing frequenting. Teacher-librarians play an important role in this trend, supporting teachers as they learn about information technology, (Cromption 2010). Technology offer unprecedented opportunities for critical thinking, information sharing, information access and social networks. These activities are fundamental aspect of student learning, making information technology an essential component in education, (Gerding 2007).

Some educators may hesitate to embrace technology in the classroom, fearing their students will obtain inaccurate information. Todd (1998) agrees that there is plenty of misinformation. The key is teaching students the skill to tap into the accuracies of valuable sources. Students with poor internet-literacy skills have not learned how to evaluate the result of keyword searches. Teachers need to teach this generation how to use electronic sources effectively. Students will learn to implement information technology properly if they are taught the necessary skills.

1.1.3 Secondary Schools in Kaduna State

This stage of education usually begins between the age of 12 to 14 years and last for four (4) to six (6) years. While some secondary education, like the vocational ones are terminal with the aims of preparing students for employment upon graduation, others are advanced in their training and are rather transitional, preparing students for further advance studies. Secondary Schools in Kaduna state are made up of Junior and senior secondary schools. The purpose of these schools is to expand student knowledge of subjects already studied at primary level, which are essential for physical and intellectual development as well as to prepare them as future citizens.

1.1.4 Teacher librarians

Teacher librarians are information specialists who work collaboratively with classroom teachers in planning, teaching, and evaluating students. Teacher librarian is an individual who hold both recognized teaching qualification and qualification in librarianship (ASLA 2007). Teacher librarians are important due to their combined knowledge of teaching curriculum, library and information management. Information is the foundation of all education and therefore teacher librarian plays a pivotal role for student achievement, Researches conducted by Clyde, (2000) Lance, (2001) Haycook, (2003) Krashen, (2002) indicate that the development of school competence in information skills is mostly through cooperative program planning and team teaching by the teacher librarian and the classroom teacher as two equal partners.

Because of knowledge explosion, it is impossible to learn all there is to know in any one discipline. All knowledge is interrelated and learning can be more efficient and effective through a process that recognizes these interrelationships. As cross-curricular information coordinators, teacher-librarians assist teachers to plan and implement interdisciplinary curriculum and help students see the connections among subjects. They select a broad base of learning resources to support programs and the range of student learning needs and styles. Recognizing that library collections are becoming a balance of in-house and on-line sources, teacher librarians focus on acquiring and using information technology tools and skills to support learning. They often provide network management and technology training to colleagues. The ultimate goal is that the technology becomes transparent and seamless in the learning process for students and teachers

1.1.5 Concept of Attitude

Personality describes the whole person and attitude determines the personality. Attitude is a state of mind of an individual towards something. It may be defined as a tendency to feel and behave in a particular way towards objects, people or events. The attitudes of an individual generally remain unchanged for a prolonged period of time unless he is influenced by external forces. Attitudes are evaluative statements that can be either favorable or unfavorable. For example, if a person does not like a certain aspect of his job, he is said to have a negative attitude towards that assignment. Attitudes refer to feelings and beliefs held by an individual towards an object, event or person or could be seen as a tendency to positively or negatively react in regard to an object. (Smith & Mackie 2007).

An attitude is latent until some situation arouses it. Albirini (2006) noted that many factors bring about the formative of attitude when they further said "our attitude have various sources". They concluded by pointing out that attitudes are learned through specific experience, imitation or model, institution factor and through communication with others,

There are some factors responsible for attitude formation in some aspect of one's environment that also applies in the case of the library. Krejaya et al (1999) in their own view perceived attitude as "one's" feeling, thought and predisposition to behave in some aspect of one's environment.

Technology does not have an educational value in itself. It becomes important when teacher librarian use it in learning-teaching process. Although there are some who claim that the presence of technology in the classroom creates a pressure and requires

effective use (Kozma, 2003). Teacher librarian positive view towards IT application or denying them all together are affected by their attitudes, as well as other important factors such as their information about and experience with IT, their experiences on how to use these technology in classroom environment (Zhang, 2007).

Ertmer, (2006) argued that the main problem in teacher librarians decision to use or not use IT concerns their attitudes. These demonstrate that an individual's attitudes have a significant impact on his/her in IT use. Gelderman (1998) suggests handling IT planning together with attitudes because attitudes allow us to understand and make inferences from an individual's behaviors towards an object or event (i.e. change) and to identify how his/her behaviors are affected.

1.1.6 Teacher Librarians knowledge of information technology

Teacher-Librarians with the unique combination of professional skills-educator and information professional, perform the role of the information intermediary-bridging the gap between the needs of students growing in the information society, and the abilities of student to access and use the information they need. According to Brown (2001) teacher librarians will use their professional judgment in deciding which instructional methods will best foster the development of skills and knowledge necessary in the research process and the application of information technology. They will build their information literacy program based on the needs of students, the researches available and the recognition that good teaching should build positive attitudes towards the role of information in a knowledge based society.

According to Scherrer (2001) Technology has brought many changes to education in the past ten years and technological literacy is listed as one of the goals of the common

Essential Learning, which is a component of the Core Curriculum. The goals of technological literacy are the following:

- To develop a contemporary view of technology.
- To develop understanding that technology both shapes and is shaped by society.
- To develop students' appreciation of the value and limitations of technology within society
- To provide opportunities for students' active involvement in decision-making related to technological developments (Sask. Ed., 1998).

These goals relate to the use of the computer as a tool and to developing positive attitudes and values towards technology. The teacher-librarian is important in helping students develop these skills.

Scherrer (2000) in his own view said, Teacher-librarians can also help students to acquire other goals listed as Common Essential Learning (CEL). The Critical and Creative Thinking is developed when students select and evaluate information. A teacher-librarian can teach the following goals of Critical and Creative Thinking:

- To contribute to development of "strong sense" critical and creative thinkers
- To develop an understanding of how knowledge is created, evaluated, refined and changed within subject areas
- To promote both intuitive, imaginative thought and the ability to evaluate ideas, processes, experiences and objects in meaningful contexts
- To enable students to think for themselves, to recognize the limits of individual reflection and the need to contribute to and build upon mutual understandings.

Hepp (2004) is of the opinion that through the use of technology and resource-based

learning, a teacher-librarian can teach the goals for the Common Essential Learning (CEL) of Communication. One of the goals of Communication is to enable students to use language for differing purposes and audiences. Personal and Social Values can also be enhanced by developing students' abilities to work together in. cooperative learning groups and other grouping practices using technology. The Common Essential Learning (CEL) that can most strongly be supported by a teacher-librarian is independent learning, which lists the following goals:

- To support the development of a positive disposition to life long-learning.
- To develop students' abilities to meet their own learning needs.
- To develop students' abilities to access knowledge (Nickel 2001).

The 1998 Saskatchewan educator's indicators report lists basic skills for education as acquiring information through observation, listening and experiencing, communicating ideas and spoken language and aesthetic expression. There are also goals which promote life-long learning, understanding and relating to others, career decisions and growing with changes (Sask. Ed., 1998). Teacher-librarians' expertise is needed to help teachers meet initiatives of Saskatchewan Education.

Libraries have changed from books and audiovisual resources to resources that use new technologies. Libraries have automated their books collection and have added computer that students can use to search the catalogue, CD-ROM database, or the Internet, or to work with presentation and word processing software (Gbaje, 2008).

Scheirer (ibid) further, states that the library program itself has undergone transformations. Thus the instructional setting has also changed from the library to the classroom or the computer room. Instruction has gone beyond individual teaching by the teacher-librarian to

teaching with teachers and technology coordinators. There has been a change from a teacher requesting a theme and the librarian choosing the books. The teacher and the teacher-librarian now choose themes and resources together. The biggest change has been in the area of instruction where previously the teacher-librarian taught primarily library skills. Today, the teacher-librarian should be teaching information accessing and processing and research skill. He should also teach problem solving, creative and critical thinking, speaking, writing, representing, listening, reading, and viewing. It has been found that teaching library skills in isolation has not been as successful as when the skills are integrated into the curriculum. The program has changed so that the library skills are integrated into the curriculum to support classroom goals.

1.2 Statement of the Problem

As teachers play very prominent roles in the molding of tomorrow's citizens, the teachers should posses training in using the most modern technologies in the field of education. The Economic Commission for Africa has indicated that the ability to access and use information is no longer a luxury, but a necessity for development. Although, the effective use of information technology can be said to be strongly related to the level of knowledge by an individual as well as the attitude of the individual toward information technology. Unfortunately, many developing counties, especially in Africa, are still low in information technology (IT) application and use (Aduwa-Ogiegbean and Iyamu, 2005).

Improved secondary education is essential to the creation of effective human capital in any country (Evoh, 2007). The need for information technology (IT) in Nigerian secondary schools cannot be overemphasized especially in this technology-driven age, where everyone requires IT competence to survive. Adomi and Anie, (2006) noted that

organizations are finding it very necessary to train and re-train their employees to establish or increase their knowledge of computers and other information technology (IT) facilities. Reffell and Whitworth, (2002) added that the ability of a school librarian to use computers effectively has become an essential part of everyone's education.

To support IT application in the secondary schools, the Federal Government of Nigeria, in the *National Policy on Education* (Federal Republic of Nigeria, 2004), recommended its integration in schools equipment and use for teaching. The Kaduna state government acquired and distributed computer to its teachers. Teacher librarians are expected to use this technology for information provision to support teaching and learning in secondary schools. The researcher however observed that there is little or no use of information technology for information provision.

Even though Kaduna state government has demonstrated her commitment to resuscitating, Could it be that the type of IT facilities available in Kaduna state secondary schools are not relevant? Could it be that the attitude of teacher librarian towards IT are not encouraging? Or could it be that there are some factors affecting the attitude of teacher librarians toward IT use in Kaduna state? It is on this basis that the research was undertaken to finding from schools what must have constituted the challenges especially on Attitude of secondary school teacher librarian toward use of information technology for information provision in Kaduna State.

1.3 Research Questions

The study is guided by the following questions,

1. What types of information technologies (ITs) are available in Kaduna State secondary schools?

2. What are the attitudes of Teacher Librarians towards Information Technology for information provision in Kaduna State Secondary Schools?
3. What is the level of usefulness of the available information technologies in secondary schools for Information Provision in Kaduna state?
4. To what extent is the available Information Technology (IT) used by teacher librarians in secondary schools in Kaduna State?
5. What factors are affecting the attitude of teacher librarians towards Information Technology in Kaduna State?

1.4 Objectives of the Study

The broad objective of this research project was focus specifically on the use, knowledge and attitude of teacher librarian towards Information Technology in Kaduna State. In doing so, effort was made:

1. To identify the types of information technology available in Kaduna state secondary schools.
2. To examine the attitude of Teacher Librarians towards Information Technology for information provision in Kaduna State secondary schools.
3. To identify the level of usefulness of the available information technologies in the secondary schools in Kaduna state.
4. To examine the level of usage of the available Information Technology (IT) used by teacher librarians in Kaduna State secondary schools.
5. To identify factor affecting the attitude of teacher librarians towards Information Technology in Kaduna State

1.5 Hypothesis

This study will desire to test the following hypotheses for research. The hypotheses proffered are:

Ho1. Teacher librarians' attitude towards information technology is not significantly influenced by the available information technology devices in the schools.

Ho2. There is no significant relationship between teacher librarians' attitudes towards information technology and their usage of the available devices in the schools

Ho3. The constraints to information technology usage in Kaduna state secondary schools do not significantly influence teacher librarians' attitude towards their provision in the school.

1.6 Significance of the Study

The study will highlight the attitude of secondary school teacher librarian towards use of information technology for information provision in Kaduna state. The finding of the study will assist Kaduna state governments address the factors affecting the attitude of teacher librarians toward the use of information technology for information provision. This is in addition to knowing the extent of information technology availability and its usefulness to information provision. This study will be use to add to the body of literature.

1.7 Scope and Limitation of the Study

The study centered on the Attitude of secondary schools teacher librarians toward Information Technology for information provision in Kaduna State in the twelve (12) divisional headquarters Zaria, Anchau, Giwa, Kaduna, Lere, Sabon-Tasha, Birnin-Gwari, Rigachukun, Kachia, Zonkwa, Kafanchan, and Godogodo.

1.8 Limitation

The limitation of the study is the inability to cover the entire schools in the divisional headquarters due to their size, time and the cost implication of carrying out this research. Lastly, it was not easy distributing and collecting of questionnaire from the schools in the zones.

1.9 Operational definition of Terms

To facilitate better understanding of the study; the following key words are described below:

1. **Attitudes**: Feelings and beliefs held by an individual towards an object, event or person.
2. **Information Technology (IT):** Electronic devices used for disseminating information.
3. **Secondary Schools**: Junior and senior secondary schools.
4. **Teacher-Librarian:** Individual who hold both recognized teaching qualification and qualification in librarian.
5. **Information Provision**: making of information available to the intended user.

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CHAPTER TWO

REWIEW OF RELATED LITERATURES

2.1 Introduction

This chapter examines and reviews literatures that are related to the study. The review focuses on the attitude of teacher librarian toward Information Technology (IT) for information provision. It is aims at reviewing literatures that relate to teacher librarians' attitudes towards Information Technology. In order to do this, it is appropriate to explain a conceptual framework within which these concerns will be addressed, analyzed and synthesized based on recent researches in the area. The review is carried out under the following headings.

2.2 Information Technology in secondary schools library

2.3 Teacher librarian as Information Specialist.

2.4 Attitudes of Teacher librarian towards Information Technology.

2.5 Information Technology (IT) Knowledge of teacher librarians.

2.6 Use of Information Technology by teacher librarians.

2.7 Factors affecting the attitude of teacher librarians towards Information Technology.

2.8 Information Technology for Information Provision by teacher librarian.

2.2 Information Technology in Secondary Schools

The field of education has certainly been affected by the penetrating influence of IT worldwide and in particular developed countries. Looking at the role of education in nation building and the population explosion in the secondary schools these days, the use of IT in the teaching-learning process becomes imperative. This is true because its adoption by the

teachers will enhance effective teaching. Such issues like good course organization, effective class management, content creation, self-assessment, self-study collaborative learning, task oriented activities, and effective communication between the actors of teaching learning process and research activities will be enhanced by the use of IT based technology. Teaching and learning has gone beyond the teacher standing in front of a group of pupils and disseminating information to them without the students' adequate participation (Ajayi, 2008). The author posited that with the aid of IT, teacher librarians can take students beyond traditional limits, ensure their adequate participation in teaching and learning process and create vital environments to experiment and explore.

This new development is strong indications that the era of teacher librarians without IT skills are gone. Any classroom teacher librarian with adequate and professional skills in IT utilization will definitely have his students perform better in classroom learning. A cursory look at the secondary schools in Nigeria has shown that many teacher librarians in the system still rely much on the traditional library "chalk and talk" method of teaching rather than embracing the use of IT. According to Okebukola (1997), cited by Aduw-Ogiegbaen and Iyamu (2005) 'computer is not part of classroom technology in over 90% of public schools in Nigeria, thus the chalkboard and textbooks continue to dominate classroom activities.' This implies that the chalkboard and textbook continue to dominate classroom activities in most Nigeria secondary schools.

The Federal Ministry of Education has launched an IT-driven project known as School Net (www.snng.org) (Federal Republic of Nigeria, 2006; Adomi 2005; Okebukola, 2004), which was intended to equip all schools in Nigeria with computers and information technologies. In June 2003, at the African Summit of the World Economic Forum held in

Durban, South Africa, the New Partnership for African Development (NEPAD) launched the e-Schools Initiative, intended to equip all African high schools with IT equipment including computers, radio and television sets, phones and fax machines, scanners, digital cameras, and copiers, among other things. The NEPAD capacity-building initiative will be executed over a ten-year period, with the high school component being completed in the first five years. Three phases are envisaged, with fifteen to twenty countries in each phase. The phases are to be staggered, and an estimated 600,100 schools are expected to benefit. The aim of the initiative is to impart IT skills to young Africans in primary and secondary schools, and to harness IT to improve, enrich, and expand education in African countries (Aginam, 2006).

2.3 Teacher Librarian as Information Specialist

Teacher librarian is to provide good quality teaching resources for teachers and help students solve their needs and improving the quality of resources in the library**.** According to Baumbach (2000), teacher librarian is the keeper and distributor of instructional media for schools as an information specialist, they help assume equity of information by working with teachers to help them and their students learn the necessary skills to identify access and use appropriate resources. Teacher-librarians coordinate the sharing of resources with other information centers in the school system they are familiar with district and school resources and have the technological skills to expose students to resources in a variety of media as well (Hugles and Jackson 1996).

2.3.1 Teacher librarians in the 21st century

The teacher librarian plays a key role in incorporating technology into the curriculum. The role of teacher librarian is to support teachers as they learn to utilize the computers, helping them develop their technological skill. According to Association of teacher librarians of Canada et al ATLC (1998), teacher librarians need to have the listed professional competencies.

1. Place a priority on staff relationship and leadership in the implementation of change.
2. Know curriculum programs mandated by province district and schools.
3. Understand students and their social, emotional and intellectual needs.
4. Use appropriate information technology to acquire, organize and disseminate information.
5. Provide appropriate information, resource or instruction to satisfy the need of individuals and groups.
6. Manage library programs, service and staff to support the stated goals of the school.

According to scheirer (2000), the role of teacher-librarian in the 21st century is to provide resource, recommending how to use the resources and coordinating the effort of teachers and also to provide good working relationship with students and staff. Today's teacher librarian plays many distinct yet interrelated roles in order to accomplish these goals: as an instructional leader, as an information specialist, as an instructional technologist, collaborator and curriculum leader.

2.3.2Teacher Librarian as a Collaborator and Curriculum Leader

Teacher-librarian provides leadership in bringing about some of the major curriculum changes in schools today. They become teaching, learning and assessment partners who maintain strong curriculum and instruction involvement. According to Scheiren (2000), teacher and teacher librarian collaboratively plan and teach in order to develop and implement curriculum and to try new teaching strategies.. Teacher librarian interface and intervene with the schools broader instructional programs, they can design, implement and evaluate to plan for teaching information skills. Therefore teacher librarian can use cooperative planning and teaching to develop curriculum.

To understand how teachers and teacher librarians might collaborate, a number of collaborative techniques must be considered. Collaboration involves the dynamics of a teaching relationship between the teachers and teacher librarians where interactions are fluid and modification are based continuous assessment of the student need and performance (Doiron, 1999). Haycock (2000) emphasizes the importance of students in this process when he says that collaboration is the "single professional behavior of teacher librarians that most affect students' achievement." By looking at the technological aspect of collaboration, the connection between students' success and the teacher- librarian's role as collaborator become clearer.

2.4 Attitude of Teacher Librarians towards Information Technology

Positive attitudes – are assumed to be fundamental in the acceptance, implementation and success of new technologies. Literature relating to people's views of technology is expressed in terms of attitudes to technology or attitudes to change (Spacey et al., 2003), in Eguavoen (2011). For IT to be successful, it is suggested that teacher

librarian need positive attitudes to IT (Fine, 1986; Evald, 1996). Attitudes have been suggested to influence behavior.

Social psychologists, Fishbein and Ajzen (1980) submitted in the Theory of Reasoned Action (TRA) that an individual's behavior is determined by one's intention to perform the behavior, and that this intention is influenced jointly by an individual's attitude and subjective norm (the latter is a measure of how people are influenced by their peer's opinions). Applying this understanding to an individual's acceptance of management information technology, the Technology Acceptance Model (TAM) (Davis, 1989) suggested that attitude influences behavioral intention to use, and subsequent actual use. TAM also includes the constructs of perceived usefulness and perceived ease of use. Perceived usefulness is the extent to which a person believes that using a technology (or computer program, for example) will enhance his performance, while perceived ease of use is the extent to which a person believes that use of the technology will be free from effort. These two constructs have an important impact on a person's attitude toward using the technology but, unlike the TRA, Davis found that attitude did not completely mediate between beliefs and intentions (Popoola 2002). This suggests that an individual could hold negative attitudes towards information technology, but would still use it because it has high-perceived usefulness (Dillon and Morris, 1996).

2.5 Information Technology Knowledge of Teacher Librarians

Teacher librarians collaboratively plan and teach units of work with subject and classroom teachers to develop these vital skills of information literacy. Many teacher librarians move beyond this to become active providers of professional development for

their colleagues within and beyond their own schools. They have also made the skills and knowledge of teacher librarians even more valuable in schools. Teacher librarians generally become involved in many school-wide activities, sometimes with a literary focus such as author visits, book clubs, wider reading or 'boys and literacy' programs – who said that computers would be the death of books? Ighoroje, (2006). At other times the teacher librarian involvement may have a professional focus such as membership of IT, PD and Curriculum committees.

Since the library was often the first place to have computers, many schools have come to rely on the IT skills of the teacher librarian, who may manage the school's intranet or even the school network and web site. Teacher librarians are certainly at the forefront of knowledge management as they implement the new information technology. If schools are interested in information technology, such skills and knowledge in their teacher librarians is a great asset.

Apart from their direct contribution to the teaching and learning programs offered by schools, the teacher librarian also provides many management services such as flexible timetabling for use of the library resource centre, developing and administering resource budgets, coordinating the roles and daily tasks of library staff and volunteers, liaising with parent and student groups, selecting and acquiring relevant and appropriate resources for the library collection (including access to community resources and information services). This duality in their role certainly makes teacher librarians 'value-added' educators that schools cannot afford to sideline.

Information Literacy to Information Technology

Information literacy is the ability to access and evaluate information that promotes both independent learning and social responsibility, Scheirer (2000). The modern day teacher librarian must not only be proficient with the wide range of information technology available today but must still be able to work with teachers to instill information literacy skill in their student. Baule, (1999) emphasizes that students must possess information skills or research and study skills that will lead to critical thinking, effective problem solving and decision making. Information skills taught in isolation are of little value. It is the teacher librarian's job to show students how to analyze information critically and use it wisely. Student must know how to plan, locate and retrieve information (Williams et als 1998). Therefore, teacher librarian must work closely with students to design implement, and revise research skills. The classroom teacher cannot keep up with all the search strategies and the best resources.

Information Technology (IT) Skills

Using technology to effectively access relevant information is a learned skill. When teacher librarians learn how to access and evaluate the information, they are learning skill that can be used throughout their lives. "Information literacy provides teacher librarians with the knowledge, and skills to efficiently and effectively access information," while accurately evaluating and assessing the information they receive from any source, particularly the information technology (O' Sullivan and Scott, 2000, p41). Cromption (2010), asserted that by understanding and practicing these basic skills, teacher librarians will be able to develop their expertise as technology user.

Teacher librarians need to learn many technology-related skills including being able to:

- Identify the source of information
- Determine the validity of information
- Consider whether the information is authentic and relevant to their needs.
- Display information retrieval proficiently
- Analyze the information
- Communicate the information to others.

Johnson (2006) reminds us that teacher librarians need technology skills in their day to day lives. He also acknowledges that these skills are only one aspect of the information problem solving skills and high-order thinking skills that are required today. As technology users, teacher librarians are continually developing these important skills. Asselin (2005) suggests that teacher librarians are leaders in the new literacy's of the information age. In this role, their task is to ensure that students are prepared to participate in a global, networked information society. Since not all teachers have access to information technology in their classroom, the school library is often the place for more assistance.

2.6 Use of Information Technology by Teacher Librarians

The use of IT in Nigeria and African countries generally is increasing and dramatically growing. However, while there is a great deal of knowledge about how IT is being used in developed countries, there is not much information on how IT is being introduced into schools in developing countries (Beukes-Amiss and Chiware, 2006). Looking at the developing countries according to these authors, there is generally limited access time per month using IT by both the teacher librarians and students, and even less

time spent with reliable technologies. It should be noted that availability of IT vis-à-vis access in term of ratio of teacher librarians and students differs significantly. Despite this, the new and emerging technologies challenges the traditional process of teaching and learning, and the way education is managed. While information technology is an important area of study in its own right, it is having a major impact across all curriculum areas (Fowowe, 2006). Increased access to IT in the home, at work, and in educational establishment, could mean that learning becomes a truly lifelong activity- in which the pace of technological change forces constant evaluation of teaching process itself.

Formerly, the term IT was used to mean ICT, the term which was synonymous with computer but as the passage of time, it covered other equipment created to enhance acquisition, storage and dissemination of information materials. Most of these equipments were initially confined to the vicinity of offices (Cox and Preston 1999). Libraries in the course of time embraced the use of these technologies to carry out their day-to-day activities as usage was adapted to carry out some routine activities. Its function does not end there. The current issue is the use of IT in the classroom by the teachers. This includes specifically the use of computers, televisions, telephone, digital camera, data projector, etc. As the world continues to revolve around technology, teacher librarians need to continue incorporating these new technologies into their teaching.

Gray and Souter (2007) observed that some studies have been conducted on uses of IT by teacher librarians particularly on the issue of their professional development. Most of these studies were carried out in developed countries where the use of IT has come of age, and where there are resources and material to maintain them. However, the use of IT by teacher librarians in Nigeria is just beginning to gain popularity and researches in the area

have just started emerging (Tella e tals 2009). Emphatically, the use of IT by teacher librarians to teach the students is highly advantageous. This is because it enables them to demonstrate understanding of the opportunities and implications of the uses for learning and teaching in the curriculum context; plan, implement, and manage learning and teaching in open and flexible learning environment (UNESCO, 2004). In the light of these therefore, more research is needed to showcase further development of IT use by secondary school teacher librarians in Nigeria.

2.7 Factors affecting the Attitude of Teacher Librarians towards Information Technology

There are some certain factors that are responsible for attitude formation in some aspect of teacher librarian's attitude toward IT which are also applied in the case of the library (Freedman, Sears &Carlsmith2000). These factors could be as follows:

1. Teacher librarian attitude in the use of IT.
2. Teacher librarian characteristic (gender, age, year of teaching experience).
3. Competence on IT
4. Self- efficacy.
5. Anxiety.
6. Culture.
7. Professional development
8. Accessibility to technology

Teacher librarians' attitude in the use of IT

Information Technology (IT) is a potential tool to transform the teacher librarian into learner focus, through rich and interactive learning environment. Teacher librarians

constitute the key element in this transformation based on the adoption of IT learning and teaching tools in school. Integrating IT in the curriculum requires an investment both in these technologies and in trained personnel. Pelgrum (2001); Lim and Khine (2006) assert that teacher librarian positive view towards IT application or denying them all together are affected by their attitudes, as well as other important factors such as their information about and experience with IT, their experiences on how to use these technology in classroom environment (Zhang, 2007).

To successfully initiate and implement information technology in school's program depends strongly on the teacher librarian support and attitudes. It is believed that if teachers perceived information technology programs as neither fulfilling their needs nor their students' needs, it is likely that they will not integrate the technology into their teaching and learning. Among the factors that influence successful attitudes towards IT into teaching are teacher librarian's attitudes and beliefs towards information technology Hew and Brush (2007); Keengwe and Onchwari (2008). If teacher librarians' attitudes are positive toward IT then they can easily provide useful insight on the use of IT in teaching and learning processes. Positive computer attitudes are expected to foster the use of IT in the classroom. Beckeretals, (2004).

Teacher librarian characteristics

Individual characteristics such as age, educational level, experience with the computer for educational purpose and gender can influence teacher librarian's attitudes towards information technology. According to Wilison (2002), gender is a vital social factor in shaping organizational life and focusing on gender differences in term of attitudes

towards information technology and can offer a different perspective for understanding the organizational and broader societal context of information technology. But an informal observation by Hawthorn (2000) reveals that older higher educators are naturally wary of IT use in general. The popular saying "you cannot teach an old dog new trick" seem to describe their disposition. If this is so, the situation portends great danger and bleak landscape for poor and nonexistent use of IT in secondary schools classrooms. This is because older teacher librarians are in most cases the senior teachers occupying professorial chairs. Also the task of curriculum design, development and revision rest largely on older teacher librarian. Their IT behavior becomes much more replicated in pre - service teacher librarians than the IT behavior of the younger colleagues. Their disposition and skills will no doubt affect their views and perception on how and what IT training content need be integrated into teacher education curriculum.

Teacher librarians are implored to use IT in teaching and learning activities, but their preparedness to use IT in teaching determines the effectiveness of the technology and not by its sheer existence in the classroom (Jones, 2001). The attitudes of teacher librarian towards technology greatly influence the use of computers into their teaching (Schiller, 2003). Therefore, an understanding of Individual characteristics that influence teacher librarian attitude towards IT in teaching is relevant.

Competence on IT

Computer competence is defined as being able to handle a wide range of varying computer applications for various purposes (Becker et al, 2004). According to Braunt (2003), as cited in Bordbar (2010), teacher librarian computer competence is a major predictor of integrating IT in teaching. Evidence suggests that majority of teachers who

reported negative or neutral attitude towards IT in teaching and learning processes lacked knowledge and skills that would allow them to make "informed decision" Bordbar, (2010). Teacher librarians' confidence also relate to the perceptions of their ability to use computers in the classroom, particularly in relation to their students' perceived competence.

Self-efficacy

Self-efficacy perceptions are judgments regarding one's capability to successfully perform specific tasks and behaviors, (Saks, 1995). It is the belief in one's capability to organize and execute the course of action required to manage prospective situations (Bandura, 1999). In essence, self-efficacy is the confidence that one has in one's ability to do the things that one tries to do. Bandura (1986) earlier defined self-efficacy as people's judgment of their capabilities to organize and execute the course of action required to attain designated types of performances. It is concerned not with the skills one has, but with the judgments of what one can do with whatever skills one possesses. It involves a generative capability in which one must organize cognitive, social and behavioral sub-skills into integrated courses of action (Saks, 1995).

Similarly, self-efficacy according to Tella, jr and Tella (2006) is defined as an individual's perceived ability to attain designated types of performance and achieve a specific result. In the study of self-efficacy of teacher librarian, TellaJr and Tella(2006) found out that self-efficacy propels teacher librarians to keep trying to accomplish their goals, and make good decisions that translate into meaningful achievements. They choose to perform more challenging tasks and are more creative .Therefore teacher librarians feel reluctant to use computer if they lack confidence. "Fear of failure" and "lack of IT

knowledge" Balanskat et al.,(2007) have been cited as some of the reasons for teacher librarian lack of confidence to use IT in their teaching. Becta (2004, p.7) stated that "many teacher librarians who do not consider themselves to be well skilled in using IT feel anxious about using it in front of a class of children who perhaps know more than they do".

Anxiety

Anxiety may arise in a specific situation that the person seeks to avoid, this state is called phobia. There are many definitions and interpretation of the term anxiety. According to French (1997) anxiety is a state of emotional and physical disturbance induced in a person by a real or imagined threat. Andreasen (2000) on the other hand, believes that anxiety is a term used by mental health professionals to mean the same as fear or worry. They all refer to a complex combination of negative emotional responses that include worry, fear, apprehension or agitation. These responses are generally learned from direct experiences when a person comes in contact with a threatening object or situation.

Information technology anxiety, according to Aliyu (2010) in his work terms information anxiety as a situation produced by the ever widening gap between what we understand and what we think we should understand ,when information doesn't tell us what we want or need to know. Ahmed (2004) pointed out that anxiety could be expressed in form of irritability, headache, nightmares, rejection to use computer etc. Other symptoms may include panicking or developing milder symptom such as feeling of isolation and frustration, negative attitude towards computer base resources and system, indifference to use computer related needs. On the other hand Wurman (2001) believes that the phenomenon resulting from the combination of too much information and too little

information processing capability will definitely result to information anxiety. Therefore, one clear obstacle that teacher librarians face towards information technology is their computer skill, in particular, operating the mouse and interpreting the navigation information on a screen.

Culture

"Teacher librarians are involved in the process of change whether they are implementing a program for the first time, making changes to an established program, or participating in some aspect of ongoing school improvement*"* Oberg, (1990). The very essence of the work of teacher librarians is to improve teaching and learning which requires that they work within the culture of the school and that they also work to change the culture of the school. Therefore, Oberg (2009) assert that teacher librarians need to be familiar with the culture of the school. For example, what are the dominant teaching practices? What is the school's experience with and capacity for change? How are teachers expected to work (in isolation or collaboratively)? What is the role of the principal? How is a student's success defined and measured? Without this knowledge, even well-defined innovations which began with energy and enthusiasm are likely to flounder. Klinger,et al, (2009).

Similarly, Hargreaves (2009) states that a good way teacher librarian starts to build this knowledge is through discussions with the principal and other opinion leaders in the school and through careful analysis of planning documents such as the teacher librarian's plan book, the year plans of the school and of individual teachers. Therefore, the role of the teacher librarian involves understanding the nature of school culture and the process of change, if teacher librarians are knowledgeable about school culture and the change

process, they will be more able to set reasonable and attainable goals for themselves and for the school library program, and they will be patient and understanding of the evolution of the school library program (Oberg 2009).

Professional development

Teacher librarians' professional development is a key factor to successful use of computers into classroom teaching. Several studies have revealed that whether beginner or experienced, IT related training programs develop teacher librarians' competences in computer use Bauer & Kenton, (2005); Franklin, (2007); Wozney, (2006). Teacher librarians' attitudes towards computers as well as assisting teachers reorganize the task of technology and how new technology tools are significant in student learning. Sandholtz and Reilly (2004) claim that teacher librarians' technology skills are strong determinant of IT integration, but they are not conditions for effective use of technology in the classroom. They argue that training programs that concentrate on IT pedagogical training instead of technical issues and effective technical support, help teacher librarians apply technologies in teaching and learning. Lawless and Pellegrino (2007) claim that if training program is of high quality, the period for training lasts longer, new technologies for teaching and learning are offered, educators are eagerly involved in important context activities, teamwork among colleagues is improved and has clear vision for students attainment.

Similarly, teacher librarians require experts in technology to show them the way to use IT to facilitate students' learning Plair, (2008). Teacher librarians' understanding of content knowledge and how to apply technology to support students' learning and attainment are joined to their increase in knowledge level, confidence and attitudes towards technology. Educators who integrate technology with new teaching practices gained

through professional training can transform the performance of the students (Lawless and Pellegrino, 2007).

According to Chen (2008), professional training courses must be designed to identify beliefs about successful teaching, policies for enhanced teaching and learning and syllabus design for teaching purposes.

Accessibility to technology

Technological change is posing a particular challenge to teacher librarians in secondary schools. Teacher librarians in developed countries moved quickly to learn and adopt new information technologies Ramzan, (2004). IT was introduced to perform library functions and provide innovative user services. Teacher librarians gained knowledge of new technologies through continuing education programs, professional training, and revisions to library school curricula, which helped them benefit from the new technologies. Their libraries became equipped with appropriate hardware and software (Ramzan, 2004).

Access to IT infrastructure and resources in schools are necessary condition to the attitude towards IT in education Plomp et al, (2009). Effective use of IT in teaching in schools depends mainly on the availability and accessibility of IT resources such as computer hardware, etc. Obviously, if teacher librarians cannot access IT resources, then they will not use them. Therefore, access to computers and hardware are key elements to teacher librarian attitude towards information technology

According to Hong and Koh (2002) Access of a technological tool need to be carefully considered when the tool is incorporated in lesson". Also, it is necessary to make a distinction of access to IT resources; computers are more available to teacher librarian

than students. Obviously, to encourage student centered technology learning, it is necessary that learners have access to quality information technology resources.

2.8 Summary of the Review

Information technology is changing the way students experience their education. With the introduction of new technologies, twenty-first century learning has taken on new and exciting direction, school libraries, more than ever, have become vital connection for implementing new technology-driven practice. Equipped with a variety resources, includes print and non print media, the library is the natural environment for connecting middle and high school staff and student with learning technology.

In the twenty-first, century, learning must include a digital aspect. Books are no longer the only place to find reference materials, knowing how to access information via the internet is integral to meet circular standard. Swan (2000) in a K-12 American studies addressing electronic literacy standard, stated that in order for student to become information literate learners, cooperating technology into classroom was essential. Teacher librarian plays an important role in this trend, supporting teachers as they learn about information technology.

It is worthy of note that most of the literature on Information technology in secondary education which were reviewed in this study were researches that were conducted not later than the year 2006. This implies that they were conducted prior to the review of the National policy on Education or barely, the same year or a year after. Ibrahim (2011) which was more recent corroborated the finding. The literature reviewed also that

teacher-librarian is an information specialist, fulfilling and practical transition toward using information technology within the field of education.

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CHAPTER THREE

Methodology

3.0 Introduction

This chapter presents the methodology employed for the study. It dealt with the method adopted for the study, population and sample size, the instrument used for collection of data, the administration of the instrument and procedure used for analysis of the data collected.

3.1 Research Design adopted for the study

The Survey research method was adopted for the study which was necessitated because the population investigated were scattered in a large area within the state. Busha and Hartel (1980), as well as Aina and Ajiferuka(2002). They observed that survey method could be conveniently used in the study of large and small populations without sacrificing efficiency in addition to time, money and accuracy. This made survey research as one of the most popular techniques for collecting quantifiable data. It is also very sufficient for descriptive research and when dealing with systematic collection of data or information from population, it also facilitates facts findings. Therefore, survey research method is found appropriate for use in this research on attitude of secondary school teacher librarian toward information technology for information provision in Kaduna state.

3.2 Population of the study

The population for the study comprised of the 12 education divisional headquarters in the three senatorial zones of Kaduna State. (Table 3.1 shows the senatorial zones and locations of the education divisional headquarters in the state).

Table 3.1: Population for the study.

Senatorial Zones	Divisional H/Quarters	Numbers of Schools
Zone 1	Zaria	43
	Anchau	60
Zone 2	Giwa	31
	Kaduna	39
	Lere	41
	Sabon-Tasha	62
	Birnin-Gwari	19
	Rigachukun	30
Zone 3	Kachia	55
	Zonkwa	42
	Kafanchan	50
	Godogodo	32
Total	**12**	**504**

Source Kaduna state ministry of education 2012.

3.3 Sample and Sampling Techniques

Samples were drawn from the three senatorial zones of the state which have twelve divisional headquarters. Thirty percent (30%) of the zonal divisional headquarters were selected as the sample size for the study. From each of this division, 30% of schools were selected. This conformed to the opinion of Roscoe (1969) and Afolabi (1993) that 30% of a selected population is sufficient for generalization. Purposive sampling technique was adopted for the study because the schools in the zones were not equally distributed and having teacher librarians who are subject of this research work. The choice of purposive sampling techniques was in line with Ekeh (2003) who opined that a purposive sampling enables a researcher's judgment of the suitability and appropriateness of any selected sample considering also its peculiarities.

Table 3.2: Number of schools in each zone of the Divisional headquarter and size of the sampled schools

Senatorial Zone	Divisional Head quarter	Number of schools in each zone	Size of sampled schools (30% of schools selected)
Zone I	Zaria	43	20
	Anchau	60	25
Zone II	Kaduna	39	20
	Lere	41	22
	Sabon Tasha	62	32
	BirninGwari	19	13
	Riga chukun	30	17
	Giwa	31	17
Zone III	Kachia	55	29
	Zonkwa	42	24
	Kafanchan	50	26
	Godogodo	32	19
Total		**504**	**264**

3.4 Instrument for Data Collection

The researcher used a structured questionnaire for data collection. Anthony (2006) postulated that questionnaire as an impersonal survey method that has an advantage of low cost, reduction in biasing error, greater anonymity, considered answer and consultation including accessibility. To attain the objectives of the study, the questionnaire was divided into two parts; part one was for schools principals and made up of three questions seeking to know of the available and types of information technologies in their respective secondary schools. Part two of the questionnaire was for teacher librarians and contains five sections. The breakdown is as follows: Section A requires personal data; Section B

seeks to find out Teacher librarians attitude towards IT, Section C- Teacher Librarian level of knowledge on IT, Section D-Teacher librarian knowledge acquisition and competence on IT, and Section E-Factors affecting the use of IT by teacher librarian.

3.5 Validity of the Instrument.

According to Mohammed (2005) "The instrument for data collection is said to be valid when it is able to produce correct responses from the subjects of the sample study". In order to establish the validate the instrument for data collection, copies were made available to the research supervisors, staff, research experts and colleagues in the Department of Library and Information Science, Faculty of Education, Ahmadu Bello University Zaria. They critically examine the instrument with regard to its fitness for the purpose of the research. The opinion, criticism and recommendation of these experts were incorporated into the construction of the final copy of the instrument.

3.6 Reliability of the instrument

The reliability of the instrument was tested by a pilot study conducted in Government Girls Secondary School Malumfashi and Government Secondary School Funtua both in Katsina State. The result of the pilot study from response of 10 teacher librarians shows that the instrument was used to determine the reliability coefficient of the questionnaire and the appropriate timing for the completion of the questionnaire. According to Overa (2001), Dangani (2010) and Adigu (2011) pilot testing is usually done on a much smaller scale than the main study but under the same or similar conditions.

3.7 Procedure for data collection

Questionnaire was proportionately distributed to the selected schools directly and to the target respondents. Four (4) weeks were dedicated to the distribution of the questionnaire by the researcher and the research assistant, the completed (administered) questionnaire were collected a week later.

3.8 Procedure for data presentation and analysis

The data collected for the study through the questionnaire were analyzed using the descriptive statistics to obtain relevant answers to the research questions formulated and personal variables of the teacher librarians. Inferential statistics were used in the tests of the hypotheses. All the hypotheses were tested with the Spearman rho Correlation procedure because of the non-quantitative measurement of the responses. All hypotheses were tested at a probability level of 0.05 or at the 95% confidence interval ($P \leq 0.05$).

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CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents the statistical analysis of the data collected from the questionnaires on the attitude of secondary schools teacher librarians towards information technology for information provision in Kaduna State. The analysis of the data was discussed in line with the research objectives and questions. The responses to each of the items were presented in tables of frequencies and percentages. The hypotheses of the study were tested with a discussion of the findings at the end of the chapter. The chapter begins with the response rate of the questionnaire and an analysis of the respondents' socio-demographic characteristics.

4.1 Response rate

The response rates of the teacher librarians from each of the senatorial zones and the educational head quarter along with the number of schools with teacher librarians are provided in table 4.1. The table shows the number of questionnaire administered, the number successfully filled and returned and the percentage of the returned questionnaire from each of the locations. Though a total of 264copies of the questionnaire were administered which represented 30% of the total number of respondents in the selected areas of the zones, 221 representing 84.4% of the total were returned and used for the study. The percentage rates of the returned copies of the questionnaire for each of the locations are presented in Table 4.1.

Table 4.1: Distribution of the respondents by Senatorial zones and Divisional Head Quarters

Senatorial Zone	Divisional Head quarter	N of schools	Number of questionnaire Administered	Number of questionnaire returned	Percentage (%)
Zone I	Zaria	43	20	16	80.0
	Anchau	60	25	22	88.0
Zone II	Kaduna	39	20	15	75.0
	Lere	41	22	20	90.9
	Sabon Tasha	62	32	25	80.6
	BirninGwari	19	13	12	92.3
	Riga chukun	30	17	13	76.5
	Giwa	31	17	12	70.6
Zone III	Kachia	55	29	25	86.2
	Zonkwa	42	24	21	91.3
	Kafanchan	50	26	23	88.5
	Godogodo	32	19	17	89.5
Total		**504**	**264**	**221**	**84.4**

The total number of valid questionnaire used for the study was therefore 221, which represented 84.4% of the total. With this response rate, the study could be said to have included the required populations which could be said to have vantage knowledge of the subject matter of this investigation.

4.2 Descriptive analysis of the socio-demographic characteristics of the teacher Librarians

In this Section, the socio-demographic characteristics of the teacher librarians from the different locations of the state are presented in frequencies and percentages. The selected socio-demographic variables were highest educational qualification and working

experiences. Apart from the sex of the respondents which was described each of the other variables are tabulated in frequencies and percentages below. As for the sex distribution, 106 (48.0%) of the total number of teacher librarians were male while 115 (52.0%) were female. Table 4.2 shows classification of the teacher librarians by their highest educational qualifications

Table 4.2: Classification of teachers in selected secondary schools by their highest educational qualifications

Highest qualification	Frequency	Percent (%)
Not Indicated	7	3.2
PGDE	57	25.8
HND	12	5.4
NCE	83	37.5
BLS	33	14.9
MLS	15	6.8
Others	14	6.3
Total	221	100.0

Though 7 (3.2%) of the respondents did not indicate their qualification, the table revealed that 83 (37.5%) of the respondents who worked in the schools have the National Certificate in Education. These groups of respondents were the highest single group in the table. Next to them are those with the Post Graduate Diploma in Education who accounted for 57 (25.8%) of the total respondents. Others with the Higher National Diploma (HND) were 12 (5.4%). Teacher librarians who have BLS were 33 (14.9%) while 15 (6.8%) have MLS. Only 14 (6.3%) of the teacher librarians had other unspecified certificates that were also involved in working and managing the library.

Table 4.3: Classification of the teacher librarians by their working experience in the schools

Years of working experience	Frequency	Percent (%)
1-9 years	118	53.4
10-15 years	72	32.6
16-20 years	19	8.6
20 years and above	12	5.4
Total	221	100.0

The table 4.3 revealed that 118 (53.4%) of the teacher librarians have put in between 1 and 9years in the schools. Those who have served between 10 and 15years were 72 (32.6%) while 19 (8.6%) of the teacher librarians said they have served for between 16 and 20years. Only 12 (5.4%) of the teacher librarians said they have served more than 20years on the job. By these years of service, the teacher librarians would be expected to be conversant with the subject of this investigation and therefore provide the required information with minimum constraints.

4.3 Assessment of the type of information technologies available in the schools

The first research question of the study concerns the identification of the information devices available in the schools. The available information technology devices are expected to influence the attitude of the teacher librarians towards the provision of information in the school. In Table 4.5 and Figure 1 shows the selected information technology devices are rated by the respondents in relation to their availability in the schools. The expressed opinions are tabulated in frequencies and percentages.

Table 4.4: Types information Technology devices available in the secondary schools

	Information Technology devices	Frequency	Percentage (%)
1	Computers	202	91.4
2	Television	71	32.1
3	Radio	54	24.4
4	Video camera	5	2.3
5	Photocopier	43	19.5
6	Typewriter	206	93.2
7	Scanner	46	20.8
8	Printer	165	74.7
9	Projector	11	5.0
10	CD-ROM	53	24.0
11	Video compact disc player(VCD/DVD player	10	4.5
12	All of the above	4	1.8
13	None of the above	4	1.8

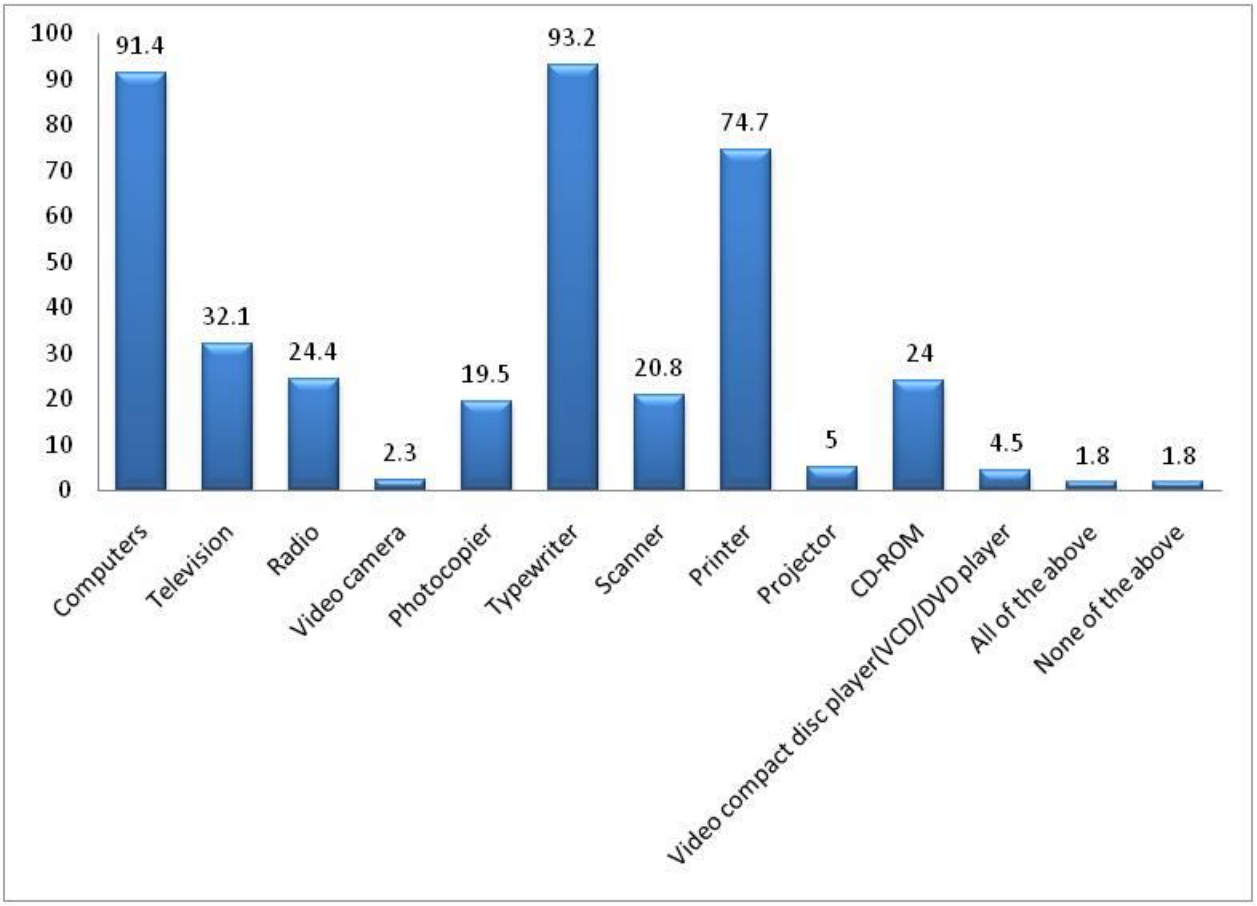


Fig.1Types information Technologies available in the secondary schools

The table 4.4 and Fig.1 revealed that 202 (91.4%) of the school principals indicated that computers were available in their schools. As for Televisions, the number of those who indicated they have them in the schools was relatively low. In the table only 71 (32.1%) indicated they have radio in their schools. Video cameras were particularly scarce. Only 5 (2.3%) of the total respondents said they have them in their schools.

The availability of photocopiers was relatively better when compared with the case of the video cameras. Even then only 43 (19.5%) of the respondents indicated they were available in their schools. For typewriters, 206 (93.2%) of the respondents stated that they were available in the schools. The availability of scanners was relatively low in the schools

as only 46 (20.8%) of the respondents indicated they have them in their schools. But Computer printers were relatively common as 165 (74.7%) of the total respondents said they were available in their schools. For projectors and Video compact disc player (VCD/DVD player), respondents who said they have them in the schools were only 11 (5.0%) and 10 (4.5%) respectively. Though 53 (24.0%) of the respondents said they have CD-ROM in the schools, it would be assumed that the available ones were associated with computers. Going by these frequency ratings, the only available information technology devices that could be said to be really available in the schools were computers, Typewriters and Computer printers. Other devices could be said to be limited to some privileged schools.

The relative inadequacy of the information devices is further explained by their placement in the schools. In Table 4.5 the locations of the devices are presented in frequencies and percentages by the respondents.

Table 4.5: Location of information Technologies devices available in the secondary schools

Location of Information Technology devices	Frequency.	Percent (%)
Library	33	14.9
Laboratory	126	57.0
Administrative office	211	95.5
Class room	5	2.3

The table 4.5 shows that only 33 (14.9%) of the respondents indicated that the information technology devices were located in the libraries. Though 126 (57.0%) of the respondents were of the view that the devices were located in the respective laboratories but 211 (95.5%) of the respondents were of the opinion that most of the information technologies are located in the administrative offices of the respective personnel. Only 5 (2.3%) of the respondents said such devices were located in the classrooms. The location of such devices in the administrative offices is a pointer to the relative inadequacies and inaccessibility of such devices since students of such schools could not be expected to take lessons from the offices.

Availability does not necessary mean that the conditions of these devices could be said to be adequate. To further verify the adequacy of the said available devices, Table 4.6 shows the respondents rating of the working conditions in five point rated scale. The observed percentages for the respective options are enclosed in bracket along with the frequency counts. For the purpose of comprehension, the five point scale was re-categorized into two. This was to explain whether the devices were functioning or not.

Table 4.6: Respondents' opinions on the working conditions of the information technology devices in the schools.

Working condition of available information Technology Devices	Very Functional	Functional	Do not know	Not Very Functional	Not functional
Computer	180 (81.4)	8 (3.6)	25 (11.3)	5 (2.3)	3 (1.4)
Television	22 (10.0)	32 (14.5)	137 (62.0)	18 (8.1)	12 (5.4)
Radio	13 (5.9)	22 (10.0)	155 (70.1)	18 (8.1)	13 (5.9)
Video camera	9 (4.1)	3 (1.4)	200 (90.5)	4 (1.8)	5 (2.3)
Photocopier	35 (15.8)	10 (4.5)	170 (76.9)	3 (1.4)	3 (1.4)
Typewriter	139 (62.9)	39 (17.6)	26 (11.8)	11 (5.0)	6 (2.7)
Scanner	28 (12.7)	17) (7.7	164 (74.2)	8 (3.6)	4 (1.8)
Printer	115 (52.0)	29) (13.1)	69 (31.2)	3 (1.4)	5 (2.3)
Projector	7 (3.2)	7 (3.2)	200 (90.5)	3 (1.4)	4 (1.8)
CD-ROM	28 (12.7)	22 (10.0)	164 (74.2)	3 (1.4)	4 (1.8)
VCD/DVD (player)	10 (4.5)	6 (2.7)	199 (90.0)	3 (1.4)	3 (1.4)

Though the percentage of respondents' record revealed that computers were available in the schools was very high in Table 4.4 but in Table 4.6, the respondents who said such computers were functioning were lower and were 188 (85.1%) of the total respondents. For Typewriters, the number dropped to 178 (80.5%). The number of respondents whose computer printers were functioning dropped to 144 (65.2%). Other devices were not really available in most of the schools, even where they were available, as indicated in Table 4.6 the number functioning is reduced when compared with the figures

who indicated they were available in their schools. This would means that most information technology devices were not available in the selected secondary schools.

4.4 Assessment of the teacher librarians' attitude towards information technologies in the secondary schools

In Table 4.7 the opinions of the respondents on their respective attitude to the various devices for information technologies in the schools are scored on a five point scale. For purpose of interpretation, the five point scale was re-categorized into two for easy comprehension.

From the response of the teacher librarians for item 1 in the table the teacher librarians feel compatible with the idea of the information technology as a tool in teaching and learning in the school. This is the opinion of 211 (95.5%) of the total respondents. Only 10 (4.5%) of the teacher librarians disagreed with this opinion. The respondents did not agree that the use of information technology in teaching and learning stress them. This is clearly explained in item 2 of the table where 198 (89.6%) of the teacher librarians did not agree that the use of information technology in teaching and learning usually stress them. Ironically, 180 (81.4%) of the teacher librarians did not agree that they learn more from the use of information technology than they do from books. But 161 (72.9%) of them did not agree that the idea of using a computer in teaching and learning makes them skeptical. In line with this positive attitude, 198 (89.6%) of the teacher librarians did not agree that the use of computer in teaching and learning scares them.

Table 4.7: Respondents' ratings of teacher librarians' attitude towards information technology in the schools.

Sn	Teacher librarian attitude towards information technology	Comp. Ag	Ag	Ud	Da	Comp. Da
1	Feel compatible with the idea of the information technology as a tool in teaching and learning in the library	129 58.4	82 37.1	4 1.8	3 1.4	3 1.4
2	The use of information technology in teaching and learning stress me out	6 2.7	17 7.7	4 1.8	123 55.7	71 32.1
3	I learn more from information technology than i do from books	12 5.4	29 13.1	7 3.2	108 48.9	65 29.4
4	The idea of using a computer in teaching and learning makes me skeptical	22 10.0	38 17.2	7 3.2	90 40.7	64 29.0
5	Information technology enhances students learning in the library	74 33.5	130 58.8	8 3.6	6 2.7	3 1.4
6	The use of computer in teaching and learning scares me	11 5.0	12 5.4	17 7.7	126 57.0	55 24.9
7	The computer is a valuable tool for teacher librarians	91 41.2	88 39.8	30 13.6	7 3.2	5 2.3
8	Information technology makes teaching in the library more interesting	118 53.4	90 40.7	3 1.4	7 3.2	3 1.4
9	Information technology provide better learning experience	98 44.3	92 41.6	22 10.0	6 2.7	3 1.4
10	Information technology is not conducive tool for student learning in the library because it is not easy to use in the library	6 2.7	30 13.6	9 4.1	123 55.7	53 24.0
11	Information technology gives opportunity to learn more	88 39.8	95 43.0	19 8.6	11 5.0	8 3.6
12	The computer is not conducive to good teacher librarian because it creates technical problem	13 5.9	15 6.8	20 9.0	132 59.7	41 18.6
13	I can do what the computer can do equally as well	12 5.4	15 6.8	22 10.0	117 52.9	55 24.9
14	Information technology help student to express their thinking in better and difference ways	88 39.8	109 49.3	6 2.7	9 4.1	9 4.1
15	Information technology cant address the needs of the school system	28 12.7	83 37.6	13 5.9	59 26.7	38 17.2

Keys= UD -Undecided; DA - Disagree; Comp. DA -Completely Disagree; Comp. AG - Completely Agree; AG - Agree

In what could be called a display of a positive attitude by the teacher librarians, 204 (92.3%) of them agreed that information technology enhances students learning in the school. This is further emphasized in their response to item 7 where 179 (81.0%) of the teacher librarians agreed with the opinion that the computer is a valuable tool for teaching and learning. And in item 8 of the table, 208 (94.1%) of the respondents agreed that information technology makes teaching in the school more interesting. This positive attitude could explain the opinion of 190 (86.0%) of the respondents who agreed that information technology provides better learning and teaching experiences in the school.

The positive attitude of the teacher librarian was further demonstrated in item 10 of the table where 176 (79.7.7%) of the respondents disagreed with the notion that information technology is not conducive for student learning in the library because it is not easy to use in the library. In like manner, 183 (82.8%) of the respondents agree that the use of information technology gives more opportunity to students in learning. Therefore 173 (87.3%) of the respondents disagreed on item 12 where it was suggested that the computer is not conducive to good teacher librarian because it creates technical problem. This could explain why 194 (87.8%) of the respondents disagreed that they can do what the computer can do equally as well. In line with this attitude, 197 (89.1%) of the respondents agreed that information technology helps students to express their thinking in better and different ways. However, there was no consensus among the respondents on whether information technology can address the needs of the school system or not. This is shown in the almost equal opinion for and against in item 15 of the table. In the overall assessment, it could be said that the teacher librarians have positive attitude towards information technology in the secondary schools.

4.5 Assessment of the level of usefulness and purpose of information technologies in the secondary schools

The usefulness of the information technology in teaching and learning in the secondary schools were assessed in relation to the third objective and research question which sought to identify the usefulness and purpose of the available information technologies in the schools. In Table 4.8, the levels of usefulness of the available information were assessed on a five point interval scale. But for the purpose of analysis and easy comprehension, the five options were re-categorized into two with the corresponding percentages to determine whether the respective information technology is useful or not useful for teaching and learning in the schools. In the table the percentages for the respective options were enclosed in bracket along the frequency counts.

The respondents were of the opinion that Word processing was useful for the teaching and learning in the schools. This was the consensus of 195 (88.2%) of the respondents in the table. Only 26 (11.8%) of the respondents disagreed with this consensus. Other information technologies considered useful by the respondents for teaching and learning in the schools along with the frequencies and percentages of agreement were, Database management (62.4%), Spread Sheet for preparing report cards (62.9%), Printer (64.7%) and Typewriters (86.0%). For these items in the table, the percentage of respondents who did not agree with their usefulness in the schools, were relatively low as indicated in the table.

Table 4.8: Respondents' ratings of information technologies' usefulness in the schools.

Usefulness of information technology in teaching and learning	Very useful	Useful	Undecided	Not very useful	Not useful
	174	7	21	14	5
Word processing	78.7	3.2	9.5	6.3	2.3
	38	60	66	40	17
Database management	17.2	27.1	29.9	18.1	7.7
Spread Sheet for preparing report	31	62	60	46	22
cards	14.0	28.1	27.1	20.8	10.0
	11	18	158	7	27
Graphics	5.0	8.1	71.5	3.2	12.2
	5	13	166	11	26
Multimedia authoring software	2.3	5.9	75.1	5.0	11.8
	3	10	167	14	27
Concept mapping	1.4	4.5	75.6	6.3	12.2
	8	12	165	11	25
Computer aided instructions(CAI)	3.6	5.4	74.7	5.0	11.3
	19	12	162	6	22
Microsoft word power point	8.6	5.4	73.3	2.7	10.0
	37	5	149	19	11
Television	16.7	2.3	67.4	8.6	5.0
	27	10	147	19	18
Radio	12.2	4.5	66.5	8.6	8.1
	14	5	174	15	13
Video camera	6.3	2.3	78.7	6.8	5.9
	120	6	67	17	11
Printer	54.3	2.7	30.3	7.7	5.0
	165	7	23	18	8
Typewriter	74.7	3.2	10.4	8.1	3.6
	38	13	140	22	8
CD-ROM	17.2	5.9	63.3	10.0	3.6
	17	6	178	10	10
VCD/DVD player	7.7	2.7	80.5	4.5	4.5

Other information technologies not considered useful in the table were related to items not found to be available in most of the schools as shown in Table 4.8. These included items like Television, Radio, Video camera, Multimedia authoring software; Graphics designs tools, Concept mapping, CD_ROM and VCD/DVD player. The inadequacies of accessibility to those items make them to be obscure to the respondents. They could therefore, not be expected to be aware of their usefulness. In Table 4.10 and

Figure 2, the purposes for the information technologies in the schools are assessed in frequencies and percentages.

Table 4.9: Respondents' opinions on the purposes for information technologies' available in the schools.

Purpose for information technology devices	Frequency	Percentage %
Play games	133	60.2
Makes presentation	62	28.1
Word processing	194	87.8
Prepare spreadsheet	107	48.4
Create graphics	10	4.5
Program the computer	11	5.0
Use educational CDs	25	11.3
Watching films	20	9.0
Printing	168	76.0
Typewriting	195	88.2
Viewing/burning document	26	11.8

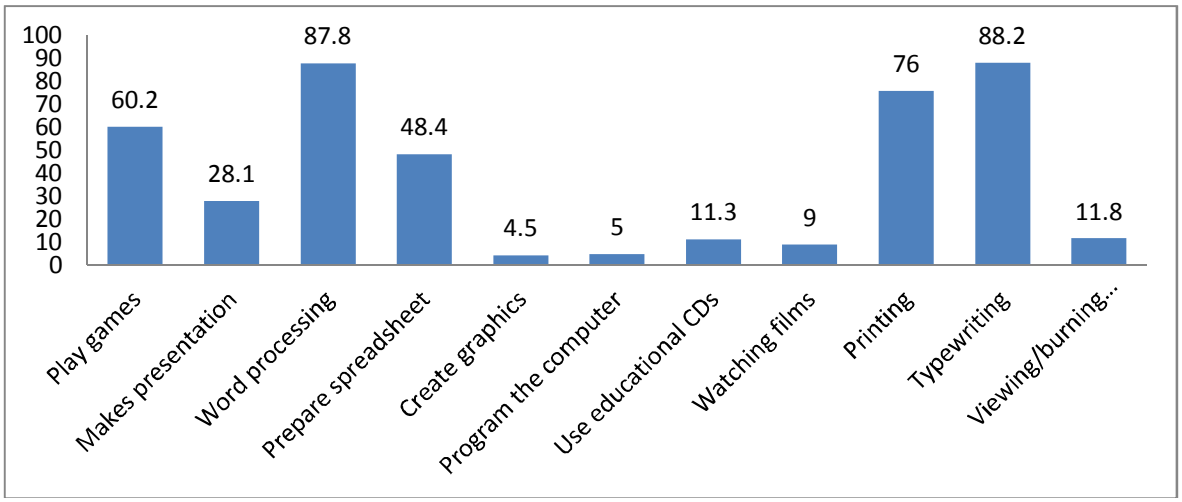


Fig 2 **Opinions on the purposes for information technologies' available in the Schools.**

The purposes for the available information technologies varies by their types as indicated in the table. For example, 87.8% of the respondents were of the opinion that the computers were used for word processing while 48.4% and 60.2% of the respondents were also of the view that they use them for Preparation of spreadsheet and games respectively. In confirmation of the use of computers for word processing purpose, 76% of the respondents agreed that the computer printer is used for printing the output of word processing. Typewriters are used for typing of documents. The low expression for the purposes of the information technology could be associated with the lack of their availability and accessibility to the teacher librarians in the schools. It would therefore be near to impossibility for them to state the purpose of an information technology that is not available in the schools.

4.6 Assessment of usage of information technologies in the secondary schools

The aim of the fifth objective of the study was to identify the extent of usage of the available information technology for the teaching and learning by teacher librarian in secondary schools. This objective was guided by the fourth research question which sought to determine the extent to which the teacher librarians use available information technology for the teaching and learning in secondary schools. In table 4.10, the opinions of the teacher librarians were assessed on a five point scale. The percentages were printed the observed frequency counts for the respective options. In the analysis of the expressed opinion, the five point scale was re-classified into two along with the percentages for easy comprehension.

Table 4.10: Respondents' opinions on the frequency of usage of information technology available in the schools.

Frequency of information technology usage	Very frequent	Frequent	Undecided	Rare	Very rare
	43	45	57	57	19
Play games	19.5	20.4	25.8	25.8	8.6
	15	20	146	25	15
Makes presentation	6.8	9.0	66.1	11.3	6.8
	145	31	31	13	1
Word processing	65.6	14.0	14.0	5.9	0.5
	30	29	108	42	12
Prepare spread sheet	13.6	13.1	48.9	19.0	5.4
	7	6	192	10	6
Create graphics	3.2	2.7	86.9	4.5	2.7
	8	5	196	7	5
Program the computer	3.6	2.3	88.7	3.2	2.3
	4	10	191	10	6
Use educational CDs	1.8	4.5	86.4	4.5	2.7
	9	18	171	15	8
Television	4.1	8.1	77.4	6.8	3.6
	15	9	173	15	9
Radio	6.8	4.1	78.3	6.8	4.1
	13	7	189	5	7
Video camera	5.9	3.2	85.5	2.3	3.2
	45	10	156	7	3
Printer	20.4	4.5	70.6	3.2	1.4
	182	14	21	2	2
Typewriter	82.4	6.3	9.5	0.9	0.9
	138	13	62	7	1
CD-ROM	62.4	5.9	28.1	3.2	0.5
	14	20	170	15	2
VCD player	6.3	9.0	76.9	6.8	0.9

The table revealed that Typewriter is the most commonly used among the selected information technology available in the secondary schools. Closely followed in this hierarchy was the computer which was being used for Word Processing and sometimes for games. These two devices were scored the most frequently used items by 89.6% and 85.5% of the respondents respectively. Third in this order of common usage is the CD-ROM coming fourth with 71.5% of the respondents. Other information technology usages

have very low frequency as indicated in the table. This low frequency of usage could be attributed to their inadequacies and inaccessibility to the teacher librarians where they are present.

4.7 Assessment of factors affecting teachers' attitude towards information technology in the secondary schools

The identification of the factors that influence the teacher librarians' attitude towards the use of the information technology in the schools was the focus of the last objective of the study. The objective was investigated with the sixth research question which sought to identify the factors affecting the attitude of secondary schools teacher librarians towards information technology in the state. The opinions of the respondents on the suggested constraints are presented in frequencies and percentages in Table 4.11 and Figure 3.

The respondents did not really agree that the teacher librarian attitude towards information technology in the secondary schools could be attributed to the problem of competency. In the table, 138 (62.4%) of the respondents disagreed with this notion. Only 83 (37.6%) of the respondents agreed that incompetence could be a determining factor of the teacher librarians' attitude. Though this tended to be a minority opinion but the response to item 2 of the table clearly revealed that incompetence could be a factor. In item 2, 130 (58.8%) of the respondents were of the opinion that the teacher librarians attitude is also affected by lack of confidence to adopt the available information technology for the teaching and learning in the schools.

Table 4.11: Respondents' opinions on the factors affecting teachers' attitude towards information technology in the secondary schools

Factors affecting teachers' attitude towards information technology in the secondary schools	Frequency	Percent (%)
1. Incompetence	83	37.6
2. Lack of confidence	130	58.8
3. Anxiety	126	57.0
4. Technophobia	36	16.3
5. Lack of interest	93	42.1
6. Poor maintenance	102	46.2
7. Inadequate training	161	72.9
8. Lack of access to technology	189	85.5
9. Inadequate skilled personal	54	24.4
10. Poor infrastructural/social facilities	121	54.8
11. Epileptic power supply	208	94.1

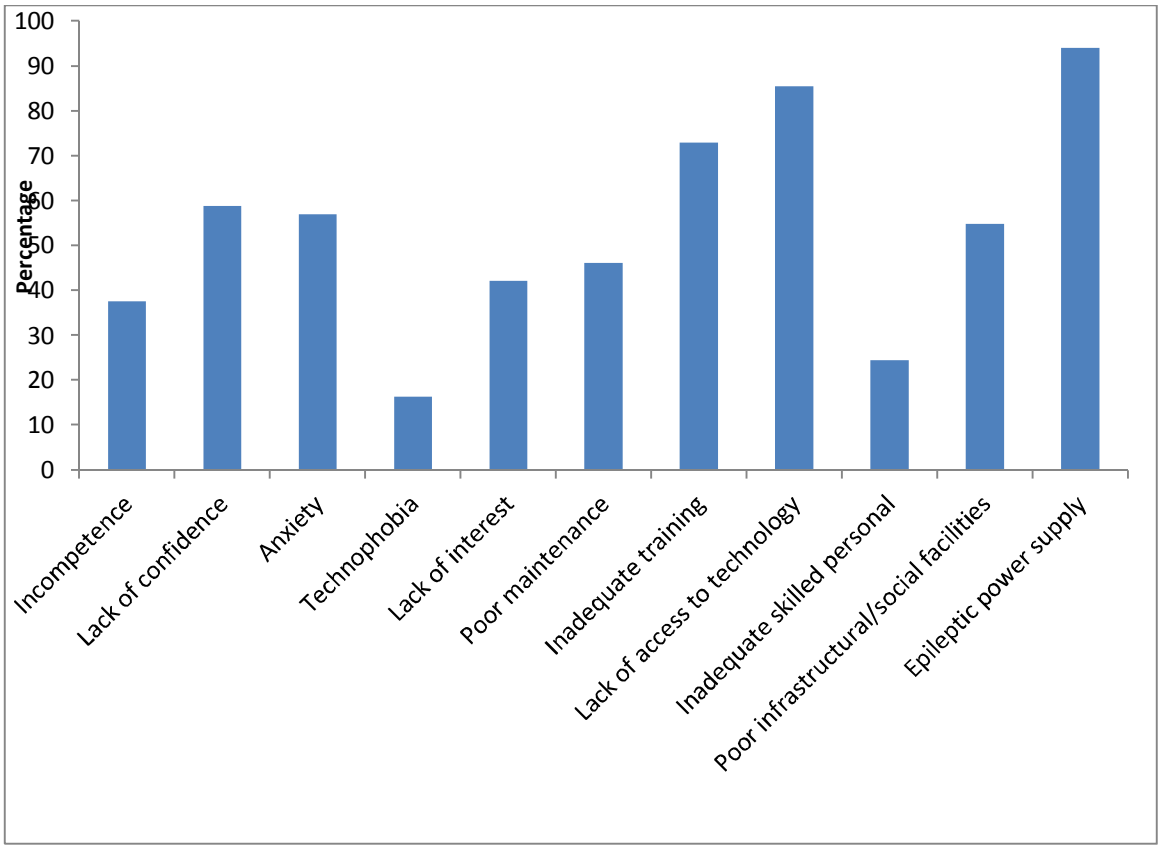


Fig 3. Respondents' opinions on the factors affecting teachers' attitude towards information technology in the secondary schools

And in item 3, 126 (57.0%) of the respondents were of the view that the teacher librarians' attitude could be associated with anxiety. But the respondents did not agree that Technophobia (inability to adopt new technology), lack of interest and lack of the necessary manpower or poor performance could be associated with the factors influencing the teacher librarians' attitude towards the information technology in secondary schools.

Possible constraints which tended to have unanimous consensus among the respondents were Inadequate training on the job, lack of access to technology, poor infrastructural/social facilities and the epileptic power supply which tended to limit the usage of such devices in the secondary schools. The last constraint is really a major limitation in the use of information technology because most modern information devices

required the use of electricity to power them. This could explain the dependence on the Manual Typewriter which was found to be of high usage among the secondary schools in this study.

4.8 Test of hypotheses

Three null hypotheses were formulated for this study. The aim of the hypotheses was to assess the relationship between the attitudes of secondary school teacher librarians in Kaduna State towards information technology provision in the schools. The hypotheses formulated were tested as follows:

Hypothesis I: Teacher librarians' attitude towards information technology is not significantly influenced by the available information technology devices in the schools.

The scores on the available information technology assessed in Table 4.4 and the teacher librarians' attitude assessed in Table 4.6 were used for the test of this hypothesis. The test was conducted with the aid of the Spearman rho Correlation procedure. This was necessary because of the scoring nature adopted in the instrument which was not really quantitative and therefore require the use of non-parametric procedures. The summary of the test is presented in Table 4.12.

Table 4.12: Correlation between Teacher librarians' attitude towards information technology and the available information technology devices in the schools.

Variables	Mean	S.D.	S. E.	r-calc.	DF	P	r-critic.
Availability Info. Tech.	4.92	1.761	0.118	0.030	219	0.662	0.133
Attitude	3.50	0.515	0.035				

The result of the test revealed that the teacher librarians' attitude towards information technology is not significantly influenced by the available information technology devices in the schools. This is indicated in the table by an observed correlation coefficient of 0.030 compared with the critical value of 0.133 in the table. Moreover, the observed significant level of significance for the test is 0.662 ($P > 0.05$). This means that the null hypothesis that teacher librarians' attitude towards information technology is not significantly influenced by the available information technology devices in Kaduna state secondary schools could be retained. One observation of this inadequacy of the information technology in the secondary schools is the confinement of the available ones in administrative offices which Cox and Preston (1999) pointed out is part of the initial development in the use of information technology in teaching and learning. The finding here agree with Aduw-Ogiegbaen and Iyamu (2005) where it was posited that most information technology devices were not part of the classroom technology in over 90% of public schools in Nigeria. In the report, it was pointed out that the chalkboard and textbooks continue to dominate classroom activities in most secondary schools. The experienced inadequacy of the information technology in the secondary schools is no doubt translated to the non-significant relationship in this test. In essence, it could be assumed that secondary schools in the study areas have not really reach this developing stage of the technology. This agrees with Plomp (2009) where it was reported that access to information technology and resources in schools are necessary conditions for the attitude towards information technology education.

Hypothesis II: There is no significant relationship between teacher librarians' attitudes towards information technology and their usage of the available devices in the schools

The attitude of the teacher librarians examined in Table 4.6 and the usage of information technology devices available in the secondary schools assessed in Table 4.7 were used as the variables for this test. The Spearman rho Correlation procedure was used for correlating the two variables because of reasons adduced in the test of hypothesis I. The result of the test is summarized in Table 4.13.

Table 4.13: Correlation between teacher librarians' attitudes towards information technology and their usage of the available devices in the schools.

Variables	Mean	S.D.	S. E.	r-calc.	DF	P	r-critic.
Attitude	3.50	0.515	0.035	0.138	219	0.041	0.133
Usage	3.54	0.742	0.050				

The test revealed that the teacher librarians' attitude towards information technology is significantly correlated with their usage of the available information devices in the selected secondary schools. The observed correlation coefficient for the test is 0.138 while the critical value of r at the same degree of freedom (219) is 0.133. The level of significance observed for the test is 0.041 ($P < 0.05$). The null hypothesis that there is no significant relationship between teacher librarians' attitudes towards information technology and their usage of the available devices in the schools is therefore be rejected. The finding here is consistent with Ajayi (2008) where it was posited that the use of information technology by teacher librarians can take students beyond traditional limits and ensure their adequate participation in teaching and learning and create vital environment to experiment and explore. In a similar report, Plomp (2009) was of the view that effective use of information

technology in teaching and learning in the schools depends mainly on the availability and accessibility of the teacher librarians to the information technology resources.

Hypothesis III: The constraints to information technology usage in Kaduna state secondary schools do not significantly influence teacher librarians' attitude towards their provision in the school.

This hypothesis was tested with the scores on the factors affecting the use of information technology in the secondary schools examined in Table 4.11 along with the scores of the respondents on the teacher librarians' attitude examined in Table 4.6. The result of the test conducted with the Spearman rho procedure for the two variables is summarized in Table 4.14.

Table 4.14: Correlation between constraints to information technology usage and teacher librarians' attitude towards the provision of information technology in Kaduna state secondary schools.

Variables	Mean	S.D.	S. E.	r-calc.	DF	P	r-critic.
Attitude	3.50	0.515	0.035	0.434	219	0.000	0.133
Factors	6.49	2.225	0.150				

The two variables as indicated in the table are significantly correlated. The observed correlation coefficient is 0.434 at 219 degree of freedom. The critical value for the correlation coefficient at the 219 degree of freedom is 0.133. The observed value is higher than the critical value and the observed probability level of significance for the test is 0.000 ($P < 0.05$). By these observations, the null hypothesis that the constraints to information technology usage in Kaduna state secondary schools do not significantly influence teacher librarians' attitude towards their provision in the school could be rejected. The implication is that the identified factors could significantly influence the attitude of the teacher

librarians towards the information technology provided in the secondary schools. Among the constraints confronting the teacher librarians were the lack of confidence which could be associated with the inadequacy of IT resources, inadequate training, lack of access to some of the information technology, the epileptic power supply and poor infrastructural/social facilities in the locations were the secondary schools are located. These findings agree with Bordbar (2010) where it was reported that teacher librarian information technology competence is a major predictor of IT integration in teaching and learning.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5. 0 Introduction

This chapter provides the summaries of the study, findings, conclusion, recommendation and suggestions for further studies.

5.1 Summary of the Study

Information technology has been regarded as the most important dimension of human technological advances in this 21st century. It is seen as a basis for development for any society. For the Nigerian nation to benefit from this advancement, it is necessary that the knowledge be transmitted through the school to learners who are prospective leaders of the nation. The teacher librarians are information specialists who work in collaboration with teachers in the teaching and learning in secondary schools' classrooms. The role of the teacher librarians is therefore vital for the achievement in the use of information technology in the teaching and learning at the secondary school level.

The secondary school level is the bastion of such transmission. In realization of the importance of information technology, through various educational policies, the respective governments have made effort to integrate information technology into teaching and learning at different levels of the Nigerian Educational system. But in Kaduna State secondary schools, the use of information technology for teaching and learning is very low even where it existed. The questions then among others are: what type of information technologies are used by teacher librarians of information provision in Kaduna state secondary schools? What are the attitudes of teacher librarian toward information

technology for information provision in Kaduna state secondary schools? What factors are affecting the attitude of teacher librarians toward information technology in Kaduna state?

In order to achieve the objectives of the study, three hypotheses were formulated along the six research questions raised for investigating the objectives. The review of relevant literature revealed that attitude of secondary schools teacher librarians toward information technology has influence their usage of available information technology resources. Thus teacher librarians need to continuously update their skills to be able use these technologies.

The designed instrument was administered to teacher librarians in some selected secondary schools through the stratified random sampling technique using the survey method. A total of 221 teacher librarians were thus selected for the study.

The data collected for the study were subjected to a descriptive analysis using frequency distribution tables and percentages, while the hypotheses were tested using the Spearman Rho correlation procedure and the Chi-square method.

5.2 Summary of Findings

5.2.1 Findings on descriptive analysis

Base on the data collected and analyzed for the study, the following are the major findings of the descriptive analysis.

1. The study discovered that information technologies resources are not adequately spread in the secondary schools. However, prominently available comprised of computer system, printers television radio, CD-Rom, photocopier scanner and typewriters are found available, other information technology device were generally lacking in most of the schools.

2. Teacher librarians were found to have positive attitude towards the use of information technology for teaching and learning in the schools.
3. Information technologies such as computer for word processing, typewriter for typing document and printer for printing document were mostly useful to teacher librarian in Kaduna State secondary schools.
4. The finding also showed that the available Information Technology devices that comprised of typewriter, computer, printer and CD-ROM were frequently used. Other information technologies with very low frequencies of use were projector, radio, scanner, video camera, VCD/DVD players and television. This could be attributed to their inadequacies and inaccessibility to the teacher librarians where they are present.
5. The study also revealed that the possible constraints which tend to have unanimous consensus among the respondents were inadequate trainings on the job, lack of access to technology, poor infrastructural/social facilities and the epileptic power supply which adversely limit use of the technologies in secondary schools in Kaduna State.

5.2.2 Finding on statistical analysis

The result of the hypotheses tested showed that:

1. There was no significant relationship between the teacher librarians' attitude and availability of the information technology resources in the selected secondary schools.
2. There was significant correlation between teacher librarians attitude toward

information technology with usage of the available information technology device in the selected secondary schools.

3. The constraints to information technology usage in the secondary schools are positively correlated with the attitude of the teacher librarians towards the information technology use for teaching and learning in the schools.

.

5.3. Conclusion

Based on the findings of the study, it could be concluded that teacher librarians in Kaduna state secondary schools have a highly positive attitude towards the use of information technology for the teaching and learning in secondary schools. Despite the fact that there were information technology resources in the selected secondary schools, but there were not adequately available. Attitude of teacher librarians is positively correlated with usage of available information technology resources in the schools. However, inadequacy of information technology resources, lack of confidence, anxiety, inadequate training, and lack of access to technology, poor infrastructural/social facilities and epileptic power supply were some of the constraints that significantly influence the teacher librarians' attitude towards information technology usage in the schools.

5.4 Recommendations

Arising from the findings and conclusion of the study the following recommendations were made in line with the objectives and answers to the research question raised for the study:

1. The study recommends that fund should be made available for the purchase and

supply of necessary information technology for teacher librarians to execute their primary assignment for teaching and learning. Policy can also be developed and approved by ministry of education of minimum requirements of schools available information technologies for used in secondary schools in Kaduna State, to serve as supporting document for the request of addition and non available information technologies.

2. Teacher librarians should be encouraged to sustain their attitude toward the use of information technology, through sponsorship and release to conferences, workshops and additional training qualifications on the use, types and maintenance of information technology to enhance teaching and learning.
3. Principal should endeavor to make information technology available for teaching and learning. This will compliment and aid students to use their senses of sight and hearing to comprehended easily what is taught, therefore effort and emphasis of use of information technology for administrative task alone should be discourage, however be operationalize in a manner that will ensure the smooth running and fulfilling the objectives of secondary schools in Kaduna State not at detriment of the others.
4. A formal training program should be carried out periodically for teacher librarians on various information Technology resources usage.
5. Challenges to effective use information technology considering the high enthusiastic characteristic of teacher librarians require that on the job, access to information technology, availability of infrastructures and overcoming epileptic power supply must be accorded have priority not to abuse these virtue. Effort

should be made at improving the provision of power supply, where the National power is not available, provision for generators for local supply could be considered as an option.

5.4 Suggestions for Further Studies

This study focused on attitude of secondary schools teacher librarian toward Information Technology in Kaduna State. There is a need to replicate this study in other states of the Federation towards improving the use of IT for the teaching and learning of secondary school students.

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APPENDIX I

QUESTIONAIRE ON ATTITUDE OF SECONDARY SCHOOLS TEACHER LIBRARIANS TOWARDS INFORMATION TECHNOLOGY FOR INFORMATION PROVISION IN KADUNA STATE.

Department of Library and Information Science,
Faculty of Education,
Ahmadu Bello University,
Zaria.

Dear Respondent (Principal),

I am a postgraduate student in the above named department carrying out a research on the "Attitude of Secondary Schools Teacher Librarians towards Information Technology for Information Provision in Kaduna state." To this effect, you are to assist in filling this questionnaire honestly to the best of your knowledge.

Your responses will be treated strictly confidential and shall be used only for the purpose of this research work.

Thank you in anticipation for your cooperation.

HabibaAlkasim

Mobile number – 08161289065

Email- tirbiba@yahoo.com

1. Name of the School…….
2. Which of the divisional Headquarters is your school?
   a. Giwa [ ]
   b. Zaria [ ]
   c. Anchau [ ]
   d. Kaduna [ ]
   e. Lere [ ]
   f. Sabon Tasha [ ]
   g. BirninGwari [ ]
   h. Riga chukun [ ]
   i. Kachia [ ]
   j. Zonkwa [ ]
   k. Kafanchan [ ]
   l. Godogodo [ ]

Availability of Information Technology in Secondary Schools in Kaduna State.

Which of the following Information Technologies are available in your Schools? Please tick [ ]

   a. Computer [ ]
   b. Television [ ]
   c. Radio [ ]
   d. Video Camera [ ]
   e. Photocopier [ ]
   f. Typewriter [ ]
   g. Scanner [ ]
   h. Printer [ ]
   i. Projector [ ]
   j. CD-Rom [ ]
   k. Video compact Disc player (VCD/DVD player) [ ]
   l. All of the above [ ]
   m. None of the above [ ]
   n. Others please specify…….

12. Where are these information technologies located?
   a. Library [ ]
   b. Laboratory [ ]
   c. Administrative office [ ]
   d. Class room [ ]

3. What is the working condition of these information technologies available in your school?

Please indicate from option 1- 5**. 5= Very Functional, 4= Functional, 3=Not Very Functional 2= Not Functional, 1= I don't know**

ASSESSMENT					
Devices	**5**	**4**	**3**	**2**	**1**
Computer					
Television					
Radio					
Video Camera					
Photocopier					
Mobile Phone					
Typewriter					
Scanner					
Printer					
Projector					
CD-Rom					
VCD/DVD player					

APPENDIX II

QUESTIONAIRE ON ATTITUDE OF SECONDARY SCHOOLS TEACHER LIBRARIANS TOWARDS INFORMATION TECHNOLOGY FOR INFORMATION PROVISION IN KADUNA STATE.

Department of Library and Information Science,
Faculty of Education,
Ahmadu Bello University,
Zaria.

Dear Respondent,

I am a postgraduate student in the above named department carrying out a research on the "Attitude of Secondary Schools Teacher Librarians towards Information Technology for Information Provision in Kaduna state." To this effect, you are to assist in filling this questionnaire honestly to the best of your knowledge.

Your responses will be treated strictly confidential and shall be used only for the purpose of this research work.

Thank you in anticipation for your cooperation.

HabibaAlkasim

Mobile number – 08161289065

Email- tirbiba@yahoo.com

SECTION A Demographic Information

Instruction: Kindly tick the appropriate box [ ]

3. Gender Male [ ] Female [ ]
4. Name of the School…….
5. Which of the divisional Headquarters is your school?
   m. Giwa [ ]
   n. Zaria [ ]
   o. Anchau [ ]
   p. Kaduna [ ]
   q. Lere [ ]
   r. Sabon Tasha [ ]
   s. BirninGwari [ ]
   t. Riga chukun [ ]
   u. Kachia [ ]
   v. Zonkwa [ ]
   w. Kafanchan [ ]
   x. Godogodo [ ]
6. What is your highest educational qualification?
   a. P G D E [ ]
   b. H N D [ ]
   c. N C E [ ]
   d. B L S [ ]
   e. M L S [ ]
   f. Others Please specify----------
7. How long have you been working in the School library?
   a. 1-9 [ ]
   b. 10-15 [ ]
   c. 16-20 [ ]
   d. 20 and above [ ]

SECTION B : Teacher Librarians attitudes towards information technology.
As a teacher librarian what is your attitude toward information technology?
Please indicate each item from 1 to 5. **5= Completely Agree. 4= Agree. 3= Disagree. 2= Completely Disagree. 1= Undecided.**

	5	4	3	2	1
1. Feel comfortable with the idea of the information technology as a tool in teaching and learning in the library.					
2. The use of information technology in teaching and learning stresses me out.					
3. I learn more form Information Technology than I do from books.					
4. The idea of using a computer in teaching and learning makes me skeptical.					
5. Information Technology enhances students learning in the library.					
6. The use of computer in teaching and learning scare me					
7. The computer is a valuable tool for teacher librarians.					
8. Information Technology makes teaching in the library more interesting.					
9. Information Technology provides better learning experience.					
10. Information Technology is not conducive tool for student learning in the library because it is not easy to use in the library.					
11. Information Technology gives opportunity to learn more.					
12. The computer is not conducive to good teacher librarian because it creates technical problems.					
13. I can do what the computer can do equally as well.					
14. Information Technology helps student to express their thinking in better and different ways.					
15. Information Technology can't address the needs of the School system.					

SECTION C
Teacher Librarians level of knowledge on Information Technology use in Education.

What is your level of knowledge in the use of this information technology? Please indicate from 1 to 5
1= I cannot use it, 2= I can use it to a small extent, 3= I can use it satisfactorily, 4= I can use it well, 5= I can use it very well

Computer system	1	2	3	4	5
Word processing					
Database management					
Spread sheet for preparing report cards					
Graphics					
Multimedia authoring software					
Concept mapping					
Computer aided instruction (CAI)					
Microsoft word power point					
Other information technologies					
Television					
Radio					
Video camera					
Printer					
Mobile Phone					
Typewriter					
CD-Rom					
VCD/DVD player					

For what purpose do you use these information technologies? (Please tick as many as applicable)

a. Play games [ ]
b. Makes presentation [ ]
c. Word processing [ ]
d. Prepare spreadsheet [ ]
e. Create graphics [ ]
f. Program the computer [ ]
g. Use Educational CDs [ ]
h. Watching films [ ]
i. Sending text [ ]
j. Printing [ ]
k. Typewriting [ ]
l. Viewing/burning document [ ]

How frequent do you use these information technologies? Please indicate from 1 to 5

1= Never, 2= once or twice a year, 3= once or twice a month, 4= once or twice a week, 5= almost every day.

Computer system	1	2	3	4	5
Play games					
Makes presentation					
Word processing					
Prepare spread sheet					
Create graphics					
Program the computer					
Use Educational CDs					
Other information technology					
Television					
Radio					
Video camera					
Printer					
Mobile Phone					
Typewriter					
CD-Rom					
VCD/DVD player					

SECTION D

Teacher Librarians knowledge acquisition on Information Technology.

How did you acquire information technology knowledge? (Please tick the appropriate column) Through:

a. In house training [ ]
b. Training Institutions [ ]
c. Workshops/ Seminars [ ]
d. Self- education [ ]

SECTION E

Factors affecting the attitude of teacher librarians towards Information Technology in Secondary Schools.

Which factor affects your attitude when using Information Technology in teaching/learning? Please tick as applicable.

a. Incompetence [ ]
b. Lack of confidence [ ]
c. Anxiety [ ]
d. Technophobia [ ]
e. Lack of interest [ ]

f. Poor maintenance culture [ ]
g. Inadequate training [ ]
h. Lack of access to Technology [ ]
i. Inadequate skilled personnel [ ]
j. Poor Infrastructural / Social facilities [ ]
k. Epileptic power supply [ ]
l. Other please specify…….