STAKEHOLDERS' PERCEPTIONS ON PROVISION AND UTILIZATION OF RESOURCES IN SECONDARY SCHOOLS IN NORTH-CENTRAL ZONE, NIGERIA

BY

SADIKU ISHOLA OJULARI

DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND CURRICULUM,
FACULTY OF EDUCATION,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA

OCTOBER, 2018

STAKEHOLDERS' PERCEPTIONS ON PROVISION AND UTILIZATION OF RESOURCES IN SECONDARY SCHOOLS IN NORTH-CENTRAL ZONE, NIGERIA

BY

SADIKU ISHOLA OJULARI NCE, B.Ed (Ilorin) M.Ed (Ibadan)
Ph.D/EDUC/11393/2008-09, P16EDFC9167
EDUCATIONAL ADMINISTRATION AND PLANNING SECTION

A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DOCTOR OF PHILOSOPHY IN EDUCATION (EDUCATIONAL ADMINISTRATION AND PLANNING)

DEPARTMENT OF EDUCATIONAL FOUNDATIONS AND CURRICULUM,
FACULTY OF EDUCATION,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA

OCTOBER, 2018

DECLARATION

I declare that this thesis titled "Stakeholders' Perceptions on Provision and Utilization of Resources in Secondary Schools in North-Central Zone, Nigeria" is the outcome of my research work in the Department of Educational Foundations and Curriculum. All information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other institution.

Sadiku Ishola OJULARI	Signature	Date
Ph.D/Educ/11393/2008-09,		
P16EDFC9167		

CERTIFICATION

This project report titled "STAKEHOLDERS' PERCEPTIONS ON PROVISION AND UTILIZATION OF RESOURCES IN SECONDARY SCHOOLS IN NORTH-CENTRAL ZONE, NIGERIA" by Sadiku Ishola Ojulari meets the regulations governing the award of the Degree of Doctor of Philosophy (Educational Administration and Planning) of the Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

Prof. B.A. Maina	_____	_____
Chairman, Supervisory Committee	Signature	Date
Dr. E.I. Makoju	_____	_____
Member, Supervisory Committee	Signature	Date
Dr. A.A. Igunnu	_____	_____
Member, Supervisory Committee	Signature	Date
Dr. M.I. Harbau	_____	_____
Head of Department	Signature	Date
Prof. S.Z. Abubakar	_____	_____
Dean, School of Postgraduate Studies	Signature	Date

ACKNOWLEDGEMENTS

Glory be to Allah, the Almighty for his mercy and protection over us.

The successful completion of this research work has been made possible with guidance and support of some individuals who need to be acknowledged.

First, my sincere appreciation goes to my supervisor Prof. B.A. Maina for his guidance and support throughout the period of my study. His observations and comments have added great value to the success of the study. I also appreciate the efforts of my other supervisors, Dr. E.I. Makoju and Dr. A.A. Igunnu for their immense constructive contribution toward the success of this research work. May God be with them always, amen.

I wish to express my appreciation to Dr. M.I. Harbau and Dr. A.M. Jumare for their concern and contribution towards the completion of this research work. May God help them too in all their undertakings, amen. My thanks also go to my senior colleagues, Dr. N.E. Dubi, Dr. S. Olomola and other classmates and friends who have contributed in one way or the other towards the success of this study.

I wish to thank my research assistants in the six states Benue, Kogi, Kwara, Nasarawa, Niger, Plateau and at the Federal Capital Territory, Abuja. Finally, I wish to commend my wife and children for their patience and understanding. May God bless us all, amen.

DEDICATION

This research work titled "Stakeholders' Perceptions on Provision and Utilization of Resources in Secondary Schools in North-Central Zone, Nigeria" is dedicated to my wife, Omowumi, and children, Nimatallah, Abdulsalam, Maryam, Ibrahim and Bilikis for their patience and support.

ABSTRACT

This research study was titled "Stakeholders' Perceptions on Provision and Utilization of Resources in North-Central Zone, Nigeria". Four objectives were formulated for the study, two of which were to assess the perceptions of stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria and to examine the perceptions of stakeholders on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria. Four research questions were asked in relation to the objectives. Four hypotheses were formulated to guide the study. The four hypotheses were to test the differences in the opinions of the stakeholders in general. Descriptive survey research design was used for the study. The population of the study consisted of 91,290 stakeholders comprising 56,806 Teachers, 15,053 Non-teaching staff, 3,179 Principals/Vice-principals, 15,895 Parents-Teachers Association officials and 357 Ministry of Education officials. 1,742 were sampled among them for the study, using 'Yamane' formula. A self-developed questionnaire was used as instrument for data collection. It was designed in Likert type of five points rating scale format. 1669 copies of the questionnaire were returned and analysed with the use of Mean and Standard Deviation statistics. The four hypotheses were analysed with the use of Analysis of Variance (ANOVA) and tested at 0.05 level of significance. The findings revealed that there was adequate provision of human resources only in the Art subjects. There was adequate provision and utilization of material resources for Mathematics, Art and Language subjects, but not adequate for Science, Vocational and Technical subjects. Financial resources were not adequate in all subject areas. Time as a resource was adequately provided and effectively utilized. Three of the hypotheses were accepted while one was rejected. The conclusion of the study included that human resources were not adequate for science, vocational and technical subjects but the few one that are provided were effectively utilized. Time resources was adequately provided and effectively utilized. Based upon the findings of the study, recommendations were made which included there is need to employ more qualified staff, particularly in the areas of Science, Mathematics, Vocational and Technical subjects. More financial resources could be raised in secondary schools through fund raising scheme, appeal to old students and benevolent members of the community.

TABLE OF CONTENTS

		Page
Title Page		i
Declaration		ii
Certification		iii
Acknowledgements		iv
Dedication		v
Abstract		vi
Table of Contents		vii
List of Tables		xi
List of Figures		xiii
List of Appendixes		xiv
List of Abbreviations		xv
Operational Definition of Terms		xvi

CHAPTER ONE: INTRODUCTION

1.1	Background to the Study	1
1.2	Statement of the Problem	8
1.3	Objectives of the Study	11
1.4	Research Questions	11
1.5	Research Hypotheses	12
1.6	Basic Assumptions	12
1.7	Significance of the Study	13
1.8	Scope of the Study	14

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction 15

2.2 Conceptual Framework of the Study 15

2.2.1 Provision 15

2.2.2 Utilization 16

2.2.3 Resources in an Organization 16

2.2.4 Human Resources in an Organization 16

2.2.5 Teaching and Learning Resources 17

2.2.5.1 Teaching Resources 18

2.2.5.2 Learning Resources 18

2.2.6 Financial Resources in an Organization 19

2.2.7 Material Resources in an Organization 19

2.2.8 Time Resources in an Organization 20

2.2.9 Conceptual Framework 21

2.3 Theoretical Framework of the Study 24

2.3.1 System Theory 24

2.3.2 Constructivist Learning Theory 29

2.4 Teaching and Learning Resources 31

2.4.1. School Infrastructural Facilities for Teaching and Learning 31

2.4.2 Human Resources for Teaching and Learning in Secondary Schools 36

2.4.3 The Role of the Teacher in Teaching and Learning 38

2.4.4 Teaching and Learning in Secondary Schools 41

2.5 Financial Resources in an Organization 44

2.5.1 Funding of Education in Nigeria 44

2.5.2 Method of Financing in Educational Institutions in Nigeria 48

2.5.3 Provision and Utilization of Finance in Secondary Schools in North-Central Zone of Nigeria 53
2.6 Material Resources 57
2.6.1 Classification of Instructional Materials 57
2.6.2 The Role of Instructional Materials in Teaching and Learning 61
2.6.3 Improvisation and Maintenance of Instructional Materials 63
2.6.4 Provision and Utilization of Instructional Materials in Secondary Schools in North-Central Zone of Nigeria 68
2.7 Provision and Utilization of Time 71
2.7.1 Time Management in an Organization 71
2.7.2 Importance of Time Management in an Organization 72
2.7.3 Time Table in the School System 74
2.7.4 Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria 75
2.8 Relevant Empirical Studies 77
2.9 Summary 92

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction 94
3.2 Research Design 94
3.3 Population of the Study 94
3.4 Sample and Sampling Technique 95
3.5 Instrumentation 96
3.5.1 Validity of the Instrument 97
3.5.2 Pilot Test 98
3.5.3 Reliability of the Instrument 98
3.6 Administration of Instrument 98
3.7 Method of Data Analysis 99

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

4.1	Introduction	100
4.2	Analysis of Demographic Variables	100
4.3	Responses to Research Questions	101
4.4	Hypotheses Testing	114
4.5	Summary of Major Findings	125
4.6	Discussion of the Findings	126

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1	Summary	131
5.2	Conclusions	133
5.3	Recommendations	134
5.4	Suggestions for Further Studies	135
	References	137
	Appendices	151

LIST OF TABLES

		Page
Table 2.1	Federal Allocation to Education as Percentage of Total Budget, 1999-2003	45
Table 2.2	Federal Government Budgetary Allocation to Education in Nigeria:2009–2018	46
Table 3.1	Population of the Study by States	95
Table 3.2	Sample Size in Relation to the Population	96
Table 3.3	Samples from Each State and FCT	96
Table 3.4	Decision Rule Schedule	99
Table 4.1	Rate of Return (RR)	100
Table 4.2	Status of the Respondents	100
Table 4.3	Provision and Utilization of Human Resources in Secondary Schools in North- Central Zone of Nigeria	102
Table 4.4	Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria	105
Table 4.5	Provision and Utilization of Financial Resources in Secondary Schools in North-Central Zone of Nigeria	108
Table 4.6	Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria	111
Table 4.7	Analysis of Variance Statistics on the Difference in the Opinions of Stakeholders on the Provision and Utilization of Human Resources in Secondary Schools in North-Central Zone of Nigeria	115
Table 4.8	Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Human Resources in Secondary School in North-Central Zone of Nigeria	116
Table 4.9	Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Human Resources	116
Table 4.10	Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on the Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria	117
Table 4.11	Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on Provision and Utilization of Material Resources in Secondary schools in North-Central Zone of Nigeria.	117

Table 4.12	Post Hoc Tests and Multiple Comparisons in Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on Provision and Utilization of Material Resources in Secondary schools in North-Central Zone of Nigeria	118
Table 4.13	Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Material Resources in Secondary School in North-Central Zone of Nigeria	119
Table 4.14	Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Material Resources	119
Table 4.15	Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on Provision and Utilization of Financial Resources in Secondary schools in North-Central Zone of Nigeria	120
Table 4.16	Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Financial Resources in Secondary School in North-Central Zone of Nigeria	121
Table 4.17	Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Financial Resources	121
Table 4.18	Analysis of Variance Statistics on the Difference in the Opinions of the Respondents on Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria	122
Table 4.19	Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Time Resources in Secondary School in North-Central Zone of Nigeria	123
Table 4.20	Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Time Resources	123
Table 4.21	Summary of Hypotheses Testing	124

LIST OF FIGURES

	Title	Page
Fig.I	Conceptual Framework of Resources in a Secondary School	21
Fig.II	Basic Model of an Open System	25
Fig.III	School as an Open System	25
Fig.IV	Basic System Model	27
Fig.V	Categorization of Instructional Media	58

LIST OF APPENDICES

		Page
Appendix I:	Questionnaire on Perception of Stakeholders on Provision and Utilization of Resources in Secondary Schools in North-Central Zone, Nigeria	151
Appendix II:	How to Calculate Sample Size Using Taro Yamani Formula	157
Appendix III:	What Does Cronbach's Alpha Mean? SPSS FAQ	159

LIST OF ABBREVIATIONS

The terms used in this study are hereby defined, for the purpose of understanding as they were used in this study.

ANOVA	Analysis of Variance
ASUU	Academic Staff Union of Universities
CBN	Central Bank of Nigeria
ETF	Education Tax Fund
ETF	Education Trust Fund
FCT	Federal Capital Territory
FME	Federal Ministry of Education
FRN	Federal Republic of Nigeria
MOE	Ministry of Education
NBTE	National Board for Technical Education
NBS	National Bureau of Statistics
NCCE	National Commission for Colleges of Education
NPE	National Policy on Education
NUBEC	National Universal Basic Education Commission
NUC	National Universities Commission
PTA	Parents -Teacher Association
PTDF	Petroleum Trust Development Fund
TETFund	Tertiary Education Trust Fund
UBE	Universal Basic Education
UNESCO	United Nations Educational, Scientific and Cultural Organisation
US	United States

OPERATIONAL DEFINITION OF TERMS

In this study

Provision the act or process of supplying some things which is done in advance. It is supplying something for use in arrangement or preparation before hand for doing something or meeting the need of certain activities to be done.

Utilization Utilization means to put to use or to turn into profitable or effective use of something or things.

Resources Needed things supplied to be used to help achieve the aims and objectives of a school programme or to improve the school's teaching and learning results. It could be in form of capital property or money reserves, wealth, materials or even human labour. In this study, they are human, financial and material resources including time as a resource.

Human Resources The people who make up the workforce of an organization. In secondary school setting, these refer to the principal, teachers, non-academic staff such as clerks, cooks, messengers, laboratory technicians, laboratory attendants, librarians, maintenance officers, Ministry of Education officials and Parents-Teacher's Association officials, etc.

Teaching Resources Facilities and equipment that teachers and students use in the course of teaching and learning such as textbooks, chalks, dusters, charts workshops and workshop equipment, laboratory chemicals, laboratory reagents, computer sets, libraries, exercise books, etc.

Learning Resources Facilities and equipment teachers use to assist students in activities or process of gaining knowledge or skill or in the process modification of behaviour-such as textbooks, charts, classrooms, workshop and workshop equipment, laboratories, chemicals, reagents, library, videos, softwares, etc.

Financial Resources Money reserves for capital projects and to pay salaries of teachers, administrators and other non-academic staff in a school. They also include operational costs such as money for buying of consumable materials and for maintenance of school facilities such as transportation, buying of fuel, grease, etc.

Material Resources Things of material value and usefulness to teaching and learning process owned by a school such as books, tables, chairs, cupboards and other forms of furniture, workshops, machines and equipment, laboratories, equipment, reagents, computer sets, library books, videos, etc.

Time as a Resource The period teachers interact with learners in the school year as indicated by the number of periods a teacher is in the class. It is always guided by the class time-table or general school time-table.

Resource Utilization Use of some things supplied to a school, especially to improve teaching and learning results.

Adequacy Providing resources in sufficient quantity for schools to achieve expected performance level among the students.

Stakeholders People that have been vested with the welfare and success of a school and its students, including school administrators, principal/vice-principals, teachers, staff members, Parents-Teachers' Association officials, Ministry of Education officials, etc.

Management Management is the administration of an organization, whether it is a business, a non-profit organization or government body. Management includes the activities of setting the strategy of an organization and coordinating the efforts of its employees to accomplish its objectives through the application of available resources, such as financial, natural, and human resources.

Perception The way in which something is regarded, understood or interpreted.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Secondary education is the second stage traditionally found in a formal education beginning about the age of 11 to 13 years. According to Federal Government of Nigeria, (FGN,2014) secondary education is the education children receive after primary education and before tertiary stage. It is also referred to, as post primary education. Secondary school level is therefore the bridge between the primary and tertiary levels. Secondary education in Nigeria consists of two tiers. These are three years of junior and three years of senior secondary schooling respectively. This system was adopted in secondary schools following the introduction of the 6-3-3-4 system of education in the country. Prior to this, secondary education was for duration of five years followed in most cases by a two year higher school certificate, which also existed then. Institutions that provide secondary education feature under four main nomenclatures: secondary school, college, grammar school, and high school.

During the colonial era and up till 1976, secondary education was in just one phase of five years followed by a two year higher school certificate, which was offered in some schools. However, with the 1976 introduction of the 6-3-3-4 system, the six-year secondary education was splitted into two, constituting the junior and senior secondary levels. Thus, most students at the junior secondary level are aged between 12 and 15 years, while those in senior secondary level are between 15 and 18 years.

With the introduction of the Universal Basic Education (UBE) programme, covering the first nine years of formal schooling, i.e. the six years of primary school and the three years of junior secondary school, the sharp distinction between primary and secondary education has become less marked. According to Tahir, (2007) this was done to broaden the educational opportunities of children in this country and to improve the productive capacity of individuals.

It is also to make our youths to have access to continuous nine-years of schooling that is relevant and functional and one that fulfills the aspirations of stakeholders.

The curriculum for junior secondary education covers the first three years of secondary schools and is both pre-vocational and academic, it consists of basic subjects that prepare learners for senior secondary education and empower them with some pre-vocational skills. It could be realized that the curriculum is adequate for all students as it caters for all categories of students with different aptitudes.

According to the Federal Ministry of Education (2005) the transition from junior to senior secondary school shall be on the basis of streaming the ratio of 60% to senior secondary school with academic biased curriculum, 20% to technical vocational schools, 10% to vocational training centres, while the outstanding 10% are to enroll in open apprenticeship schemes. This prescription is, however, not enforced as most students that completed junior secondary school generally transit to senior secondary.

At the senior secondary school, which is now known as Post-Basic Education and Career Development, the Federal Republic of Nigeria stipulated in the National Policy on Education (2014) that this level of education is to "offer diversified curriculum to cater for the differences in talents, disposition, opportunities and future roles; and to provide trained manpower in the applied sciences, technology and commerce at sub-professional grades" among other objectives. On the other hand the Junior Secondary Education is to "provide the child with diverse basic knowledge and skills for entrepreneurship educational advancement and develop patriotic young people equipped to contribute to social development and the performance of their civic responsibilities", among other goals (FRN, 2014 pp2-3).

For the programme to achieve its objectives it is very essential that both human and material resources are in adequate proportion. Dare, (2009) asserted that effective implementation of educational objectives depends, to a large extent on adequate funding,

supply of sufficient qualified teachers and other essential educational resources. These are human, financial and material resources.

According to Ekundayo (2010), the underlining principle is that the secondary schools should be able to provide quality secondary education to all who can benefit from it. Adequate provision and efficient management of facilities at this level is very vital to the achievement of its objectives specifically and national educational objectives in general.

Manga (2015) identified four major types of educational resources upon which this study is based. These are human resources, financial resources, material resources and time resources. In secondary schools both human, financial and material resources are provided by the government or authority of the school. While time as a resource is naturally provided but the authority of each school needs to manage it efficiently for effective result.

Government, private organizations and individuals are investing on education as means of fostering national development. The federal government highlighted that education in Nigeria both "…the Private Sector, Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs), International Development Partners (IDPs), communities and private individuals are very active in the sector" (FRN,2014: p.vi).

In order to fulfill the objectives, secondary schools must be provided with adequate resources in terms of human, financial and material resources. According to Abdulkareem and Fasasi, (2010), "In educational institutions, facilities constitute essential inputs which could generate favourable learning environment, facilitate interaction and enhance achievement of educational objectives". They added that "school curriculum would be meaningful and functional if required facilities are provided in adequate quantity at appropriate time".

Teaching can be defined as a process of guiding learners in their acquisition of knowledge, skills and attitudes during which a system of complex interactions among the teacher, learners and materials develop, (Ivowi, 2004). Learning on the other hand, can be seen as a process by which an individual acquires some knowledge, skills and attitudes. In his

Dictionary of Education, Singh, (2010) asserted that learning is "the process of acquiring knowledge, skills, attitudes, or values through study, experience or teaching that causes a change of behaviour that is persistent, measurable and specified or allows an individual to formulate a new mental construct or revise a prior mental construct" (conceptual knowledge such as attitudes or values).

Learning is facilitated when the learner is actually ready for it in terms of mental and physical age readiness. According to Ivowi,(2004), effective learning which manifests in meaningful learning results in an individual's effort to express understanding of concepts and principles and ability to apply them in problem-solving situation. This shows that demonstration and use of learnt skills are among the legacies of meaningful learning. Vighnarajah, Wong Su Luan and Abubakar, (2008) cited Newby, (1993) who defined learning as a continuous developmental process in which one constructs an individual understanding of the environment through specific experiences and interactions with the surrounding. Learning is therefore a relatively permanent change in behaviour that occurs by passing through experiences.

Both teaching and learning are two distinct processes but the essence of teaching is for learning to take place. Teaching and learning of practically demonstrative subjects like vocational and science subjects require well equipped laboratories, workshops, tools and equipment if relevant skills and proofs are to be learnt and acquired by the students (Adejoh, 2006).

Awotunde, (1992) also points out that most secondary schools in Nigeria have no workshops for vocational or trade subjects like woodwork, metalwork, electronics, home economics among others. According to him there is always the inadequacy of recurrent items (consumable materials) for practical training in most secondary schools and technical colleges. The result of this type of situation is that theory is emphasized while practical learning and acquisition of appropriate skills are neglected. The much needed awareness, demonstration,

understanding, and acquisition of skills and knowledge for the development of future manpower in sciences and technology cannot be achieved under this type of situation in our secondary schools. Human resources in the secondary school system refer to the principals, teachers, students and other non-academic staff (which include clerks, bursars, librarians, laboratory attendants, cleaners, messengers, day and night guards, etc).

The role of human resources for the delivery of an effective education is very critical and cannot be over-emphasized. Material resources remain useless if there are no qualified human resources to put them into use. This is because school plants, offices, machines and other materials are unproductive without the direction of human efforts. Thus human resources, consisting of both teaching and non-teaching staff which have vital role to play in the utilization of all other resources should be adequately provided. The federal government stated in the National Policy on Education (2004: p.39) that "since no education system may rise above the quality of its teachers, teacher education shall continue to be given major emphasis in all educational planning and development". To this, Adio, (2006) asserted that among the shortcomings of teachers is the inadequacy of the teachers to meet the needs and challenges in our secondary schools.

Adequate availability of both human and material resources is of paramount importance to the successful achievement of the aims and objectives of teaching and learning in secondary schools.

Finance as a resource has remained a prominent factor in the issue of educational programmes and development. Obadara and Alaka (2010), asserted that school finances as issues are of paramount concern of all levels of educational system. School finance is concerned with the mobilization and allocation of resources to schools. Adesina, (1990) described educational finance as the means employed to provide for the expenditure involved in the staffing, equipment and the maintenance of an educational institution.

Funding is the heart of any educational programme and it is the availability of the funds that determines the success or failure of such programmes. The future of our children and that of our society in general depend largely on the quality and success of our educational programme. The high expectation of the society for students and teachers to perform highly and for schools to guarantee the success of teaching and learning, effective and efficient allocation of resources becomes very important.

Obadara and Alaka, (2010) asserted that education has been in crisis for many years, much of the difficulty lies in the fact that the sector is poorly funded. According to them, this results in shortages of material and human resources experienced in the system: such as lack of qualified teachers, high turnover rate of teachers, shortage of classrooms and a host of other problems. These difficulties have been most pronounced at both primary and secondary levels.

Looking at the education sector some years back one would realize that the sector had continued to expand, though there were substantial economic setbacks. The country had witnessed some economic crisis which had brought a negative impact on the educational system and played a role in the decline of the quality of education offered. In the 1970's, Nigeria witnessed a period of oil boom. The economy then expanded and with it came some rapid growth and development in the education sector. By the end of 1980's, in contrast, there came a decline in the revenue from petroleum products which brought about major economic problems. There was also a major economic decline in real gross domestic product in 1990's. The Central Bank of Nigeria (CBN), (2000) reported that by 1994 the money supply, particularly by way of deficit financing, had increased tremendously within a period of ten years. The report went further to state that by 1995, the value of naira had fallen from a US Dollar ratio of 1:1 1985 to that of 85:1 and for the budget purposes the rate used (then) was ₦100:1 US Dollar. The inflation remained high and this had a negative impact on the education sector as well. During the crisis the funding responsibilities were transferred from one level of government to another, as well as to families, through the fee payment at

secondary schools and in higher education, (Moja, 2000). The Central Bank of Nigeria (CBN), (2000) stated that poor financial investment has been the bane of Nigerian education system since the budgeting allocation has been very low compared to other sectors and that the federal government allocation to education has declined steadily since 1999.

Lawal, (2010) claimed that this financial problem is manifested in the dilapidated state of educational facilities, lack of instructional facilities, over-crowded classrooms and hostels, lack of adequate tools and equipment in the workshops for student's use and many more.

Abdulkareem, (2008) insightfully revealed that it is of significance to note that public secondary schools have not been enjoying adequate funding in Nigeria, in spite of their unique role of absorbing pre-secondary school products and training them for post-secondary education or training them for useful living in society. According to Abdulkareem (2008) this situation is due to many factors, such as political instability leading to instability in policy formulation and implementation, over politicization of education to gain cheap political popularity, especially in the recent past, inflation in the face of dwindling economy, rising cost of education, especially recurrent educational cost, poor attitude of people to public organisation/properties, high poverty rate among parents, overpopulation in schools, especially in the urban areas.

These often result to inadequate personnel, especially in the core subjects in quantity and quality, insufficient physical facilities, such as classrooms, staffrooms, laboratories, libraries, furniture, plant and equipment, sporting facilities, convenience, and others, inadequate teaching and learning materials.

The resultant effect of the problems discussed above would surely be poor performance of students and the commonly debated concept of falling standard of education. This research is therefore designed to evaluate the provision and utilization of human, financial, material and time resources as related to the management of teaching and learning in secondary schools in Nigeria.

1.2 Statement of the Problem

Secondary education occupies a strategic place in the Nigerian education system. As a link between primary and tertiary levels, secondary education becomes vital to national development and adequate provision of both human and material resources for the achievement of its objectives becomes equally important. Therefore if this study is not conducted it would not be known that many secondary schools are not having adequate provision of either human, material, financial or time. The situation would then remain unknown and unattended to and teaching and learning would continue to be adversely affected.

In spite of the objectives of this level of education, adequate provision of resources for effective teaching and learning at this level has been a source of worry to all stakeholders. It has been observed that provision of teaching and learning resources has been grossly inadequate in most of the secondary schools and that this has led to the poor performance of students at this level of education.

The success of any organization depends largely on the effect of quality and quantity of its human resources. Human resource is very important in the development of qualitative education as it is vital in the achievement of educational objectives. Several researchers in the area of human resources in the school system have found out that of the human resources, required for production in a school system, teachers are the most vital. Yet in many schools the teachers have been found to be in short supply as well as other supporting staff. Ukeje, (1991) asserted that teachers are the foundation of quality in the schools. It is their quality, efficiency and effectiveness that the future of organized education depends. According to him, it is the teacher who, in the final analysis that translates the principles, policies and ideas into action. Thus, the effective implementation of the secondary school programmes highly depends on the adequate provision of qualified teachers. However, both teaching and non-teaching staff play facilitative roles in teaching and learning process, thus they are equally

important in the school system. Are various categories of human resources adequately provided and utilized in the secondary schools in the area under study?

School infrastructural facilities for teaching and learning which include classroom facilities, laboratories, workshops, workshop materials and equipment and other basic tools that facilitate teaching and learning are highly needed for accomplishing educational goals and objectives. They provide appropriate learning environment when they are adequately available. Adesina (1990) pointed out that although one potent index for evaluating standard and quality in education is the condition of educational facilities for learning, no other area had been so neglected by educational planners during and after colonial era like educational facilities.

Financial resource is the money made available for the purchase of goods and services required in execution of educational activities. Education is a social service that requires huge financial investment. For high performance of the human resources and for the schools to ensure success of teaching and learning, adequate funding must be provided for the schools. Poor financial investment had been the bane of Nigerian education system and there had been constant outcry of lack of fund to run schools at all levels in both public and private sectors. Fund is the fuel and lubricant which propels the school activities to move. To this, Okunamin, (2000) noted that educational finance critically examines all the cost and expenditure in the production of educational services which is both labour and capital intensive. Therefore, to sustain development at all levels, schools must devote sufficient financial resources to implement the school programmes. How well are the schools' activities financed and what are the level of provision and utilization of fund in those secondary schools in the area of the study?

Time is a special resource that cannot be controlled by any human being. It cannot be stored nor saved and time not well managed cannot beneficial. Therefore, time needs to be well managed and properly planned for. Planning effective utilization of time in a school

system is always through the time-table, so as to exercise control over the use of it. This shows organization of work for each day and for the week and creates the best fit for students' learning needs. Managing time shows that the school is organized and efficient and it takes some discipline and organization. How well is time planned for in secondary schools in the area of this study? This and other related questions are what the researcher intended to find out through the study.

Onyara, (2013) conducted a study titled, "School Based Factors Influencing Students' Academic Performance at Kenya Certificate of Secondary Education in Teso South District". The study was designed to establish school-based factors influencing students' academic performance at Kenya Certificate of Secondary Education in Teso South District. Four research questions were raised for the study in line with the objectives.

The objectives of the study were to examine the effect of human resources on students' academic performance, to assess the influence of financial resources on students' academic performance, to establish the influence of physical resources on students' academic performance and to determine how learning techniques affect the students' academic performance in secondary schools in Teso South District of Kenya. The study employed the use of descriptive survey research design. The researcher used all the 12 secondary schools in Teso South District. The target population was 12 head teachers, 24 forms 3 and 4 class prefects and 12 directors of studies. Observation schedule and questionnaires for head teachers, class teachers and directors of studies were used for data collection. According to the researcher, the findings revealed that most of the head teachers and directors of studies did not employ well trained school workers and their teachers were not enough to handle all the students. Therefore, the human resources were not well handled. Secondly, the financial resources were not well established since the study indicated that most of the head teachers were having financial problems in their schools. Thirdly, the physical resources were not well developed in most of the secondary schools. Lastly, learning techniques were well practiced

and taken seriously in majority of the schools. However, it could be observed by this current researcher that the findings of the research were not related to students' academic performance in the schools. The research agreed with the opinions of most researchers. She had cited that most schools have inadequate qualified teachers, that many schools have financial problems and that physical resources of many schools remain undeveloped and inadequate in the country. The findings are related to this current study in that the study was on human, financial and material resources in secondary schools in the area of the study, which are parts of the areas of focus of this current research. The findings would equally be a point of reference in the discussion of this current research.

1.3 Objectives of the Study

The study was designed to find out the stakeholders' perceptions on provision and utilization of resources in secondary schools in North-Central Zone of Nigeria. Specifically the study is designed to achieve the following objectives:

1. assess the perceptions of stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria;
2. examine the perceptions of stakeholders on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria;
3. find out the perceptions of stakeholders on provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria; and
4. determine the perceptions of stakeholders on provision and utilization of time resources in secondary schools in North-Central Zone of Nigeria.

1.4 Research Questions

The following research questions were drawn to guide the study.

1. What is the perception of the stakeholders on the provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria?

2. Is there any difference in the perceptions of the stakeholders on the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria?
3. How different is the perceptions of the stakeholders on the provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria?
4. Is there any difference in the perceptions of the stakeholders on the provision and utilization of time resources in secondary schools in North-Central Zone of Nigeria?

1.5 Research Hypotheses

The following hypotheses were formulated for the study:

H_{O1} There is no significant difference in the opinions of stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria;

H_{O2} Is there any significant difference in the opinions of stakeholders on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria;

H_{O3} How significant is the difference in the opinions of stakeholders on the provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria; and

H_{O4} Is there any significant difference in the opinions of stakeholders on the provision and utilization of time in secondary school in North-Central Zone of Nigeria.

1.6 Basic Assumptions

The study was on the assumptions that:

1. Adequate provision and utilization of resources leads to efficiency in secondary schools in Nigeria.
2. Provision of necessary materials for utilization by the entire staff is the responsibility of the school management and the proprietors of secondary schools.

3. Time resources which indicate periods teachers interact with the learners and periods other workers spend on their work contribute to the achievement of the school goals.
4. Adequate provision of financial resources leads to success of the school programme and lack or inadequacy of it brings about failure in mobilization and allocation of other resources to the school.

1.7 Significance of the Study

The findings of the study would reveal the level of availability of each aspect of the resources and the level of problems of scarcity encountered on any aspect of the resources. It would therefore be of great benefit to the government and management of each school on which aspects of the resources that need to be provided for the schools in order to achieve efficiency in the teaching and learning of all subjects in secondary schools in North-Central States of Nigeria.

The result of the research would enlighten the federal and state ministries of education officials on the position and state of affairs of resources for the management of teaching and learning in secondary schools in North-Central Zone of Nigeria, so that they would be able to assist in the procurement of more of the human, financial and material resources for the schools.

In the area of educational planning, the findings would increase the understanding of the educators, education policy makers, inspectors and other stakeholders in planning the level of availability of each aspect of resources, level of their utilization and area of subjects attention in order to achieve efficiency in secondary schools in North-Central Zone of Nigeria.

The findings of the study may contribute to the search for solution to the problems of poor performance of students in some subjects in secondary schools as the study would reveal where resources are not making appreciable impact in terms of availability and utilization in secondary schools in North-Central Zone of Nigeria.

In addition to its contribution to knowledge, the study would fill the gap between ordinary observation of people and research-based facts in secondary schools in North-Central Zone of Nigeria.

The findings of the study would be of great value and use to other researchers that are dealing with this area of specialization.

1.8 Scope of the Study

The study was focused on the perceptions of stakeholders on the provision and utilization of resources in secondary schools in North Central Zone of Nigeria. The zone consists of six states of Benue, Kogi, Kwara, Nasarawa, Niger, Plateau and the Federal Capital Territory, Abuja. The study was, therefore, limited to the six states and the Federal Capital Territory within Nigeria.

The study was designed to examine the perceptions of the stakeholders on the provision and utilization of resources in secondary schools, which included human resources, material resources, financial resources and time resources. The study was therefore limited to these key resources in secondary schools in the area of the study. The primary, tertiary and other levels of education were not included in the focus of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

In this chapter the researcher reviewed the related literature on provision and utilization of resources in secondary schools under the following subheadings:

2.2 Conceptual Framework of the Study

2.3 Theoretical Framework of the Study

2.4 Teaching and Learning Resources

2.5 Financial Resources in an Organization

2.6 Material Resources in an Organization

2.7 Provision and Utilization of Time

2.8 Relevant Empirical Studies

2.9 Summary

2.2 Conceptual Framework of the Study

The conceptual framework of the study is hereby presented.

2.2.1 Provision

Provision is the act of preparing before hand or a measure taken beforehand in providing needed materials or supplies (Websters' Encyclopedic Dictionary, 2006). According to Abdullahi, (2010) provision is supplying something for use in arrangement or preparation before hand for doing something or meeting the need of certain activities to be done. In their own, Reddy and Anuradha (2015) asserted that provision is the condition of supplying requirement or providing something for future use in an organization. Generally, provision is the act or process of supplying or providing something which is done in advance in an organization. It is supplying

something for use in arrangement or preparation before hand for doing something or meeting the need of certain activities to be done.

2.2.2 Utilization

Utilization is the act of using something or putting something into use (Schuler and Jackson, 2006). According to Abimbade (2006) utilization is employing or making practical use of certain resources or assets. In his own claim, Adeoye (2012) claimed that utilization means to put to use or to turn into profitable or effective use of something or things.

2.2.3 Resources in an organization

Resources, according to Cole, (2004) means sources of economic wealth, supplies or sources of aid or support that are resorted to in times of need in an organization. Miller and Spoolman, (2011) explained that a resource is a source or supply from which benefit is produced. Typical resources according to them are materials, staff, energy, services, knowledge or other assets that are transformed to produce benefits and in the process may be consumed or made unavailable. Utilization of resources can lead to increased wealth or wants, proper functioning of a system or enhanced well being. Berry, (2004) defined resources as total means available to an organization for increasing production or profit, including plant, people (working staff), raw materials and assets. Reddy and Anuradha (2015) asserted that resources are needed things supplied to be used to help achieve the aims and objectives of a school programme or to improve the school's teaching and learning results. It could be in form of capital property or money reserves, wealth, materials or even human labour.

2.2.4 Human Resources in an Organization

Human Resources refer to people with skills and abilities which are seen as people an organization can make use of (Cole, 2004). Schuler and Jackson (2006) asserted that human resources are all the people who currently contribute to doing the work of the

organization, as well as those people who potentially could contribute in the future, and those who have contributed in the recent past. The best organizations understand that managing human resources effectively involves more than focusing only on current employees – it requires a long-term perspective that is responsive to the concerns of current employees, potential future employees, and recent employees who no longer work for the organization. Together, past employees, current employees, and potential future employees make up a firm's total human resources. These human resources are available as potential contributors to the creation and realization of the organization's vision, mission, goals, and objectives. Nwafor and Nwafor (2012) looked at this from the school perspective when they asserted that human resources in the secondary school system refer to the principal, teachers, students and the non-academic staff (which include clerks, messengers, cleaners, etc). Thus, human resources refer to the people who make up the workforce of an organization. In secondary school setting, these refer to the principal, teachers, non-academic staff such as clerks, cooks, messengers, laboratory technicians, laboratory attendants, librarians, maintenance officers, Ministry of Education officials and Parents –Teachers' Association officials, etc.

2.2.5 **Teaching and Learning Resources**

Teaching and learning resources according to Abimbade, (2006) are in five categories consisting of people, materials, equipment and tools, settings and activities, which are used in education, particularly in teaching and learning process. According to him, specifically these are teachers, counselors, books, slides, filmstrip, maps, globes, charts, computer sets, radio, television, school buildings, classrooms, library, laboratories, etc. According to Rao and Rao (2004) teaching and learning resources consist of people and non-human resources which are used in achieving the objectives of the school system. These include all staff, buildings and classrooms, chairs, tables,

hostel, books fields, laboratories, library, chemicals and reagents maps, charts, etc. Salami, (2008) asserted that teaching and learning resources refer to all human and non-human resources that aid the teaching and learning process. These include principals, teachers, inspectors, non-academic staff such as clerks, laboratory attendants, technicians, maintenance officials, librarians, etc, while material resources include classroom offices, laboratories, workshops and workshop equipment, chemicals and reagents, libraries, computer sets, etc.

2.2.5.1 **Teaching Resources**

Teaching resources are essential and significant tools needed for teaching and learning of school subjects to promote teachers' efficiency and improve students' performance. They include textbooks, chalkboard, essential equipment such as projector, television, video, visual and audio-visual aids, charts and concrete and non-concrete materials used by the teachers to improve the quality of teaching and learning activities, (Abdu-Raheem, 2016). Chanda, Phiri and Nkosha (2000) observed that teaching resources are materials and aids used by the teacher or trainer to help him or her teach his or her lesson effectively. According to them these include charts, diagrams, books, television, videos, projectors, charts, blackboard, markers, etc. Rao and Rao (2004) asserted that teaching resources are objects or devices that assist the teacher to present a lesson to learners in a logical manner. They include concrete and non-concrete materials used by the teacher to facilitate teaching and learning process. Generally, teaching resources are facilities and equipment that teachers and students use in the process of teaching and learning, such as textbooks, chalk, dusters, charts, classrooms, workshops, laboratories, chemicals, library, books, maps, etc.

2.2.5.2 **Learning Resources**

Learning resources are the aids used by a learner or trainee to help him or her learn effectively such as books, workshop materials, radio, television, videos and other tools

that aid the learner to learn (Chanda, Priri and Nkosha, 2000). According to Reddy and Anuradha, (2015) learning resources are all tools and materials that help teachers to teach and students to learn in an educational setting. They include materials, learning space and environment which provide important opportunities for students to explore ideas, knowledge and solve problems in order to develop knowledge and skills. Olufumilayo (2014) viewed learning resources as facilities and equipment teachers use to assist students in the activities or process of gaining knowledge or skill or in the process of modification of behaviour, such as textbooks, charts, classrooms, workshops and workshop equipment, laboratories, chemicals, library, audio and audio-visual materials, etc.

2.2.6 **Financial Resources in an Organization**

Financial resources, according to Manga (2015) is the money made available for purchase of goods and services required in execution of educational services. Financial resource is the money available to an organization for spending in the form of cash, liquid securities and credit lines. It is a term covering all financial funds of the organization (Schuler and Jackson, 2006). Akinsolu (2012) asserted that financial resource is money reserved, for capital projects and to pay salaries of teachers, administrators and other non-academic staff. It includes operational costs such as money used to buy consumable materials and to maintain school facilities.

2.2.7 **Material Resources in an Organization**

Material resource is a means of any kind to obtain what is desired. According to Didactic Encyclopedia (2015) material resources are physical concrete ways and material which help to achieve a goal. They may include raw material, facilities, machines and the ground. In the school system, material resources, according to Newby, Stephen, Lehman and Russell, (2006) are materials that serve as means of connecting the learners, the teacher and the instruction. Each has its own unique

attributes and role to play in teaching and learning process. According to them, they include classroom materials, moving pictures, sound materials, charts, maps, and other three dimensional representations. Jumare, (2015) asserted that material resources in a school system are non-human resources which help in achieving the objectives of the school. These include classes, chairs, tables, hostel, chalk, books, fields, generators and many more. In his own view, Abdullahi, (2010) claimed that material resources are things of material value and usefulness for teaching and learning process owned by a school such as books, tables, chairs, cupboards, workshops, machines and equipment, laboratories, reagents, computer sets, library.

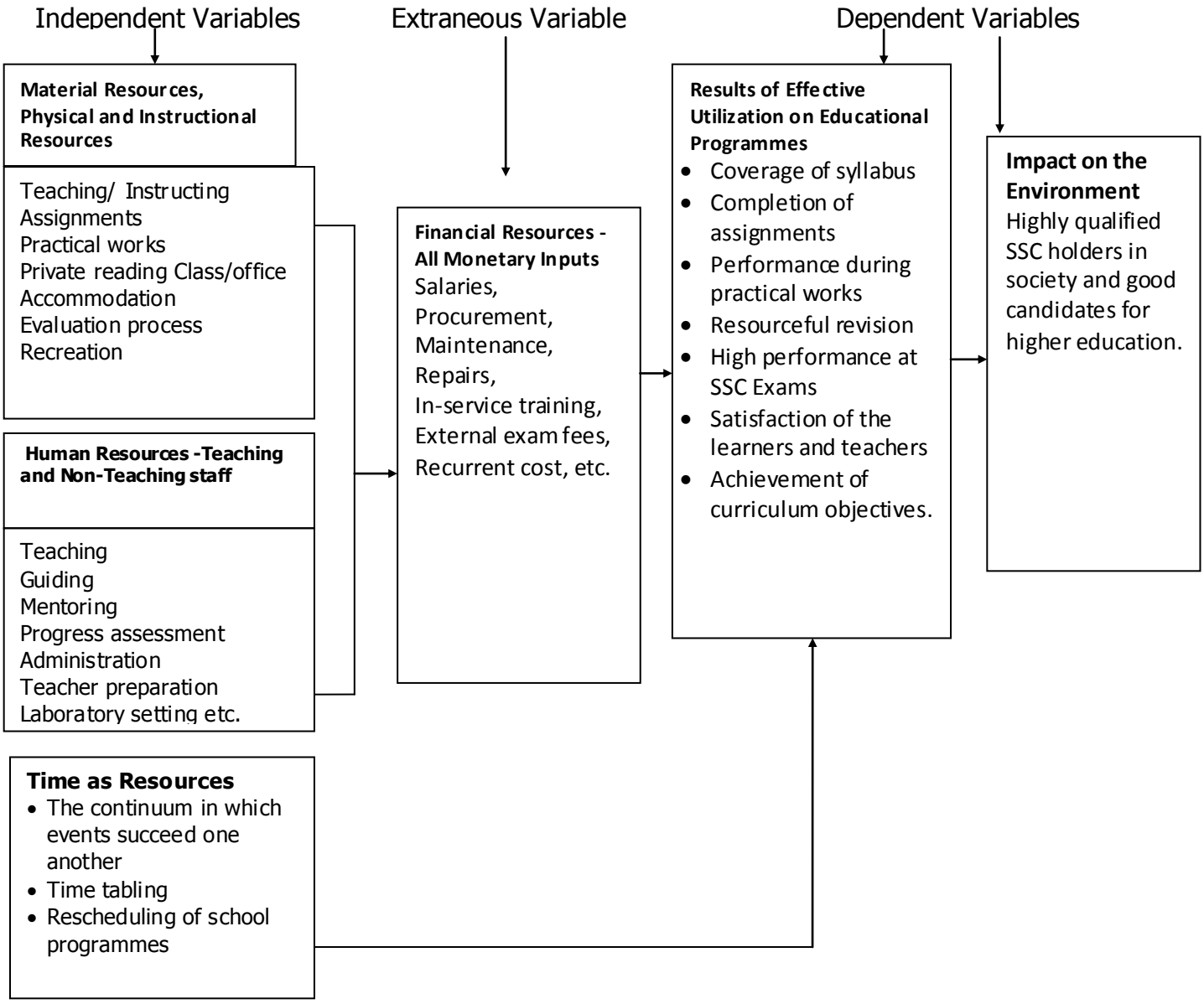
2.2.8 **Time Resources in an Organization**

Time as a resource is an observed phenomenon by means of which human beings sense and record changes in the environment and in the universe. Time has been called an illusion, a dimension, a smooth-flowing continuum and an expression of separation among events that occur in the same physical location (Rouse, 2016). According to Festus and Ekpete, (2011) time is the quantity used to indicate how long an event lasted. It is the indication of how fast or slow something or activity or somebody is moving or has taken to achieve a pre-determined result or has taken to complete a work. In their own assertion, Prochaska-cue, Preston and Mahar (2007) claimed that time resource is the period teachers interact with learners in the school year as indicated by the number of periods a teacher is in the class. It is always guided by the time-table or general school time-table.

2.2.9 Conceptual Framework

The conceptual framework illustrates the model of utilization of resources for teaching and learning in a secondary school. A model in figure 1 was designed by the researcher to depict the utilization of resources in a secondary school.

Fig. 1: A Model for Resource Utilization in a Secondary School



The independent variables are various resources consisting material resources, human resource, time as a resource and financial resources which serve as extraneous variable. Material resources comprise physical resources such as classrooms and offices accommodation, furniture, recreational facilities, workshops and workshop equipment and instructional aids such as reagents, stationeries, textbooks, prescribed methodologies, educational plans, internet facilities, etc. Availability and effective utilization of these resources ensure that the learners can work independently and achieve results with ease. Assignments can be issued and completed in good time, practical works can be successfully done, and teachers can conveniently carry out their evaluation process. Due to enriched learning environment, the whole school process would be enhanced and better curriculum implementation would be achieved.

Human resources consisting of both teaching and non- teaching staff, where qualified ones are adequate and appropriately supplied, would lead to effective teaching and learning process, proper guidance of students, appropriate monitoring and supervision of activities and proper administration of the school progress.

Time as a resource is highly limited in supply and critical to education Ebong (1997) defines time as the continuum in which events succeed one another. Time is a vital complementary resource that is indispensable in the effective utilization of the materials, financial and human resources in the school system. Effective resource management will be difficult to achieve in any school where time is disregarded.

Financial resources consist of all monetary inputs into the education system directed towards the achievement of specified educational objectives. It is an extraneous variable that has great influence on other forms of resources. Adequate financial resources always lead to prompt payment of salaries, supply of qualified staff, procurement of materials, maintenance of school plant and equipment and in-service-training of both teaching and non-teaching staff.

The dependent variables are results of effective utilization and impact on the environment. The first part which is the results of effective utilization on educational programmes are coverage of syllabus, high performance during practical works and high performance during senior secondary school certificate examination, (SSCE) and other external tests. In addition, both the students and the teachers would be satisfied with their performances and achievements and the objectives of the secondary education curriculum would have been achieved.

The second part of the dependent variables is the impact on the environment. This shows that there would be highly qualified secondary school certificate holders in the society. These secondary school certificate holders would be educated, cultured and disciplined citizens as well as employable and productive members of the society that can contribute to the development of their community. They would be highly qualified as prospective candidates for tertiary institutions. The concept indicates that where there are adequate and well-utilized resources for teaching and learning in secondary schools, the objectives of education system would be fully achieved.

According to Luneubeng and Ornstein (2008) the dimension of a school operation can be grouped into three board categories of inputs, transformation, process and outputs. They went further to explain that the school environment provides it with personnel, financing and theory/ knowledge, while the government provides laws and relevant school curriculum contents. The school as an organization converts the inputs through internal process of the internal operation. Lastly, the school produces outputs in form of students' achievement, teacher performance, growth-level of students, good school-community relationship and employee satisfaction. The whole concept explains the basic systems of resources theory on organizational effectiveness that guided the study and sub-topics of literature review that follow the concept. Senge,(2001) asserted that a learning organization is a strategic commitment to capture and share learning in the organization for the benefit of individuals,

teams and the organization. It does this through alignment and the collective capacity to sense and interpret a changing environment, to input new knowledge through continuous learning and change, to embed this knowledge in systems and practices and to transform this knowledge into out-puts.

2.3 Theoretical Framework of the Study

Under the theoretical framework, two theories were used as guide to the study. These are 'system theory' and 'constructivist learning theory'.

2.3.1 System Theory

This study is guided by system theory of an organization. A system is an integrated assembly of interacting elements designed to carry out cooperatively a pre-determined function (Flagler, Huggins and Roy, (1960) as cited in Peretomode, (1991). According to Lunenburg and Ornstein, (2008) a system is a set of inter-related elements that function as a unit for a specific purpose. Senge (2006) defined system as an interrelated set of elements functioning as an operating unit. Peretomode (1991).Cited Kimborugh and Nunnery (1983) who pointed out that in the late 1950s, scholars concerned with administration of complex organizations began to view an organization as a system. His basic thesis is that to understand a phenomenon we must recognize that the whole is greater than the sum of the parts. An organization must be studied as a whole taking into consideration the inter-relationships among its parts and its relationship with the external environment. According to Cole, (2004) systems may be "Closed" or "open". Closed systems are those which, for all practical purposes are completely self-reporting and thus do not interact with their environment. Open systems are those which do interact with their environment, on which they rely for obtaining essential inputs and for the discharge of their system outputs. According to him social systems (organizations) are always open systems such as biological systems and information systems as well as schools.

A basic model of an open system is diagrammatically shown below.

An Open System

Fig.II: Basic Model of an Open System



Source: Cole (2004)

The diagram depicted overleaf shows the characteristics of open systems as follow:-

- They receive inputs from their environment
- They convert inputs into outputs
- They discharge their outputs into their environment

Cole (2004) asserted that in relation to an organization, the inputs include people, materials, information and finance. These inputs are organized and activated so as to convert human skills and raw materials into products, services and other outputs which are discharged into the environment as in Fig.III.

Fig.III: School as an Open System



A key feature of open systems is their interdependence on the environment, which may be relatively stable or relatively uncertain at a particular point in time. Another feature is that most systems can be divided into sub-systems. The boundaries between sub-systems are

referred to as interfaces. These are equally characteristics of a school as an open system. This is related to this study in that the school is a social system that gathers resources from the environment in form of inputs, processes these resources and throws back its products into the environment again as outputs. These outputs are assessed by the community in the environment and the assessment is passed to the system in form of feedback which would be useful during the processing of the next stage of conversion. This is related to the school as an open system.

Schools as Open Systems

All schools are open systems, though with varying degrees of interaction with their environment, (Lunenburg, 2010).

According to Scott (2008) schools are social systems in which two or more persons work together in a coordinated manner to attain common goals. Lunenburg, (2010) analyzed this definition as useful, for it specifies several important features of schools which are that:

- They consist ultimately of people
- They are goal-directed in nature.
- They attain their goals through some form of coordinated efforts.
- They interact with their external environment.

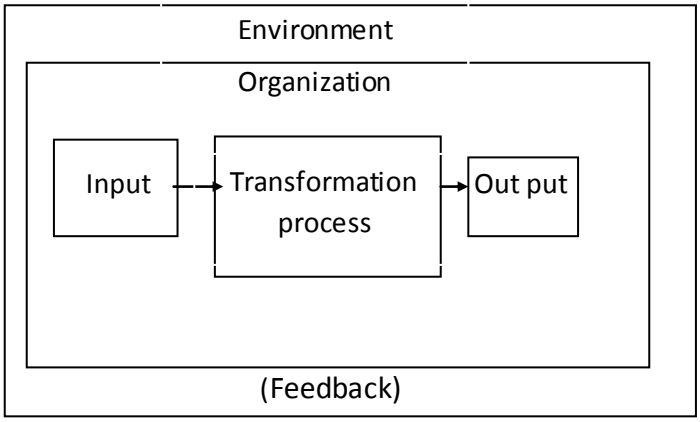
He then concluded that all schools are open systems although the degree of interaction with their environment may vary. According to open-systems views, schools constantly interact with their environment and that they need to structure themselves to deal with forces in the world around them (Scott, 2008).

Lunenburg and Ornstein, (2008) and Scott, (2008) asserted that an open system consists of five basic elements which are:

1. Inputs
2. A transformation process
3. Outputs

4. Feedback and
5. The environments as depicted in Fig IV.

Fig.IV: Basic System Model



(Adopted from Lunenburg and Ornstein, 2008)

Inputs

Schools as open systems have inputs which are resources from the environment such as human resources, financial resources, material and physical resources and information inputs.

Human resources consist of teaching and non-teaching staff in the schools. Financial recourses are the capital the schools and their proprietors use to finance long-term and short-term operations as well as concurrent expenses. Material and physical resources include consumable supplies, materials, facilities and equipment. Information inputs consist of knowledge, data, curriculum, operational instructions and other forms of information the schools make use of.

Transformation process

The main job of the school administrator which is usually the principal involves combining and coordinating these various resources in appropriate proportion to achieve the school's goals. The interaction between students and teachers is part of the transformation through which the students learn and become educated. The transformation process includes the internal operations of the school and this is greatly affected by the technical competence of

the school principal and other staff, their plans of operation and their ability to cope with changes.

Out puts

The use of inputs in the schools for transformation of resources is to produce out puts. In social systems, outputs are attainment of goals or objectives and this is represented by the product results outcomes or accomplishments of the system (Lunenburg, 2010). The kind of out puts vary from schools to schools. However, they often include growth and achievement among students and teachers, satisfaction to members of the school community and motivation for the schools' employees.

Feedback

This is information to the system concerning the outputs or the process of the system telling the system how it is doing as a result of its outputs to the environment. According to Peretomode,(1991) feedback refers to response to outputs which enables a system to modify its subsequent functioning. Feedback may be either positive or negative. Positive feedback is information that there is no discrepancy, that the outputs are those intended. It serves as reinforcement to the system. Negative feedback is in opposition to a system's action and stimulates the system to corrective activities in order to adopt to change so as to fulfill the systems' purpose.

Environment

The environment surrounding the organization includes the social, political and economic forces that make impact on the organizational process and outputs. Lunenburg, (2010) expressed the view that the environment in the open systems model takes on added significance today in a climate of policy accountability. He added that the social, political and economic contexts in which school administrator's work is marked by pressures at the local, state and federal levels. As a result of these facts, school administrators have to develop and manage internal operational process while they continue to monitor the environment.

In secondary school there are resources such as human, material, financial and time including students as inputs. The school makes the resources to undergo a transformation process in line with the objectives of the school. It would have several operations in terms of teaching and learning process. The students come out as outputs into the environment, as graduates of secondary schools. The school gets feedback from the public. This will enable each school to adjust and modify its operations.

2.3.2 Constructivist Learning Theory

This study is guided by the constructivist learning theory. The works of many scholars such as Post (1981), Brooks and Brooks (1993) and Keesee (2012) indicated that formalization of the theory is attributed to the works of Jean Piaget, Jerome Bruner, John Dewey, Lev Vygotsky, Seymour Papert and some other psychologists. Each suggests that the learning of large conceptual structures is more important than mastery of large collections of isolated bits of information. Learning is thought to be intrinsic and therefore intensely personal in nature.

In constructivism, learning is the process of accommodation and assimilation, in which individuals construct new ideas, new knowledge and new concepts from their experiences Mugure (2012) explains further that when individuals assimilate, they incorporate the new ideas and experience into an already existing framework without changing that framework. This may occur when individual's experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty misunderstanding. For example, they may not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perception of the experiences to fit their internal representations.

According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Ernest (1991) asserted that

accommodation can be understood as the mechanism by which failure leads to learning; when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure or others' failure. In his own perception, Folden (1994) claimed that constructivism is based on observation and scientific study about how people learn and that people construct their own understanding and knowledge of the world by experiencing things and reflecting on those experiences. In the classroom situation, the constructivist view of learning can point towards a number of different teaching practices. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The teacher makes sure he or she understands the students' pre-existing conceptions, understands and he tailors his class activities toward achieving set objectives. There are various approaches to teaching and learning derived from constructivist theory. Constructivists suggest that learning is accomplished best by using a hands-on approach. Learners learn by experimentation, and not by being told what will happen, and are left to make their own inferences, discoveries and conclusions. Bruner (1960) indicated that knowing is a process, not a product, while Dienes (1969) suggested that children need to build or construct their own concepts from within rather than having those concepts imposed on them.

Glasersfeid (1989), asserted that the act of learning should reside with the learner. He then emphasized that it is therefore important that teaching and learning resources should be abundant in the learners' environment. Learners construct their own understanding and that they do not simply mirror or reflect what they read. Learners look for meaning and will try to find orderliness and correlation in the events of the world even when there is little or inadequate information.

In his own claim, McMahon (1997) highlighted that constructivist paradigm views the context in which the learning occurs as central to the learning itself. He claimed that learning environment should also be designed to support and challenge the learner's thinking. This is in critical goal to support the learner in becoming an effective thinker. Many writers on learning theories such, Ernest (1991); Prawat (1994) and Floden, (1994) confirmed and emphasize that individuals make meanings through the interactions with each other and with the environment they live in. "Knowledge is thus a product of human's interaction with the environment". McMahon (1997) claimed that learning process is greatly enhanced by improving the environment, as that poorly equipped deprived environment discourages learning, while a rich environment with varied resources stimulates learning. Environment in this sense refers to the school and classroom facilities, libraries, laboratories, workshops and other teaching and learning materials. Thus, the theory is considered relevant to this research which is on provision and utilization of resources for the management of teaching and learning in secondary schools in North-Central Geo-Political Zone of Nigeria.

2.4 Teaching and Learning Resources

Teaching and learning resources refer to all human and non-human resources that aid the teaching and learning process. These include principals, teachers, inspectors, non-academic staff such as clerks, laboratory attendants, technicians, maintenance officials, librarians, etc, while material resources include classroom offices, building laboratories, workshops and workshops equipment, chemicals and reagents, libraries, computer sets, etc.

2.4.1 School Infrastructural Facilities for Teaching and Learning

Educational facilities for teaching and learning in a secondary school encompass all basic tools, equipment, workshops and workshop materials and other structural facilities such as classroom and classroom materials that facilitate effective teaching and learning. The terms 'educational facilities', 'physical plant' and 'school plants' are sometimes used inter-

changeably in educational literature. Bulama (2001) asserted that they are used in reference to the structures (classrooms, workshops, laboratories and dormitories among others), furniture, equipment, instructional materials, as well as other physical properties of the school. Teaching and learning require tools and equipment that will help in imparting, demonstration and acquisition of knowledge and skills in the diversed number of subjects taught in secondary schools.

According to Oladipo (2008), educational facilities are also referred to as school plants, comprising of the physical facilities which could be movable and immovable items in the school. These include site, school building, play-ground, laboratories, libraries equipment, water and electricity supplies, furniture, instructional facilities among others.

Olutola (1981) defined the term; school plant as including the site, the buildings, and the equipment of a school which embraces permanent and semi-permanent structures, as well as items such as machines, laboratory equipment, chalkboards and cleaner's tools. Beynon, (1985) defined 'physical facilities' as the land, buildings, furniture, and equipment used for teaching and learning. Ogbodo, (1995) explained that educational facilities are those things, which enable a skilled teacher to achieve a level of instructional effectiveness that far exceeds what is possible, when they are not provided. They include all kinds of buildings, workshops, tools, teaching aids and devices such as modern educational hardware and their software in the form of magnetic tapes, films, and transparencies.

According to Olagboye (2004) educational facilities consist of instructional resources such as audio and visual aids, graphics, printed materials, display materials and consumable materials. They also include physical resources such as land, building, furniture, equipment, machinery, and water supply infrastructure.

Abdullahi (2004) asserts that "the proper coverage of practical work and the successful acquisition of required skills constitute the crucial distinction between success and failure of a particular trade programme". One may therefore infer that effective instruction and skill

acquisition will be enhanced by the supportive services of well-equipped and well-managed school plant, equipment and other facilities.

Ezeji, (2004) remarks that Industrial Art education programme including vocational subjects requires laboratory/workshop setting with adequate training facilities as unique learning situation in which the learner can test, experiment, design, construct, repair, assemble, disassemble, fabricate, create structures, imagine and study. Active laboratory, workshop facilities and experiences are essential for the study of all science and vocational subjects.

Anyakoha, (1994) emphasized that the development of useful skills can be reinforced by the appropriate selection and utilization of learning facilities and resources on the part of the teacher. Thus the acquisition of the diverse occupational skills calls for utilization of diverse instructional materials.

Abdullahi, (2010) cited Olaitan, Ekong, Igbo, Onyemachi and Nwanchukwu, (1999) who explained that the acquisition of practical and applied skills as well as the basic scientific knowledge that will facilitate efficient occupational training requires good manipulative oriented instructional facilities in a conducive learning situation. Such learning situation can only be created through availability and utilization of instructional materials. Consequently, lack of these learning material resources deters the realization of the objectives of an educational programme. Abdullahi, (2004) is of the view that a teacher who carries out his teaching without any instructional materials to assist him will exert most of his energies and his students will be engaged in active work but little effort can be expected from the students he teaches. This shows that a good teacher uses all available resources at his disposal in a professional manner to impart knowledge and skill to his students.

The physical presence of these facilities does not imply functional educational facilities. They have to be planned, designed and carefully selected to suit the needs of the learner and should also create a comfortable learning environment. Effective planning, design

and choice of educational facilities will therefore, ensure functional facilities and adequate space to accommodate all the programmes described in the school curriculum (Larson, 1982).

Facilities can limit educational programmes. But well planned facilities will not only enhance the day-to-day learning process but also pave the way for launching new education programmes in schools. Facilities in industrial education, often expected to last for a half-century or more, can serve both present and future needs. But if facilities are to truly enhance opportunities for new education programmes and serve the rapidly changing needs of today and tomorrow, their design must avoid certain fundamental errors of omission or commission with respect to their specifications and inclusion in a well-developed instructional design (Larson, 1982).

According to Abdulkareem and Fasasi (2010) application of appropriate management techniques would assist in taking care of all available facilities. According to them, facilities which might have suffered neglect as a result of carelessness, ignorance, lack of commitment and lack of resources for management, would receive attention from school administrators and inspectors. Also, school facilities which are well managed are likely to be durable. This will save us the loss of replacement within a short period of procurement. In addition, there would be safety from danger, disaster and theft when facilities are well managed. Certain facilities, especially the ones in the laboratories, are delicate and may be explosive. There is need for them to be well managed in order to avoid danger in the schools. Also, disasters such as flood and fire could be avoided if there is proper planning for safety precautions.

However, adequate educational facilities in Nigerian schools have been described as the neglected aspect of the country's educational system, particularly facilities for the teaching and learning of science and vocational subjects including Introductory Technology. Nwankwo, (1982) asserted that the major problem of developing technical and vocational education in Nigeria is inadequate facilities.

Okoro, (1993) identified "lack of adequate workshop facilities and inadequate utilization of available laboratory facilities" as parts of the causes of declining performance of students in practical skills and failure to meet acceptable standard in the schools. Abubakar, (2000) attributed the failure in standard of schools to among other things:- "over-crowded classrooms, poor maintenance culture, inadequate provision of equipment, lack of consumable materials and inadequate coverage of practical work".

Oladipo, (2008) stated that on the contrary, the dearth as well as the poor state of physical and infrastructural facilities in schools may mar the attainment of the laudable goals and objectives of the education system. He cited Ayodele, (2004) who indicated that approximately 4.9% of Nigerian schools have no facilities. Equipment for teaching science, home-economics, arts, and crafts and sports were lacking in majority of the schools. He also indicated that 68.9% of schools have access to drinking water, while less than 6% have access to basic health facilities such as dispensaries, first-aid, rooms and medical supplies.

Olutola, (1981), Adeboyeje, (1994), Ayodele, (2004) and Oladipo, (2008) have pointed out at various times that the availability of adequate school building, classrooms, laboratories, desks, chairs and other teaching and learning facilities is necessary for the accomplishment of any educational goals and objectives. They equally observed that effective management of school facilities facilitates educational process and brings about the achievement of the goals of educational programmes. It also leads to boosting and strengthening the relationship between the schools and the hosting community. Similarly, Oladipo (2008) also asserted that there is a significant relationship between students' achievement and behaviour and the condition of the built environment. According to him, some of the most important factors that influence learning are those that relate to control of thermal environment, proper illumination, adequate space and furnishings.

Adesina, (1990) pointed out that although one potent index for evaluating standards and quality in education is the condition of educational facilities for learning, no other area

had been so neglected by educational planners during and after the colonial era like educational facilities. The poor condition of educational facilities in Nigerian schools, particularly the vocational and technical schools has attracted attention and criticism from educationists in the recent time. This is probably because the demand of the 6-3-3-4 system of education has, in part, made it imperative for these inadequacies to become vividly glaring.

Mbata (1990) observed that in many secondary and technical schools, laboratories, workshops, classrooms, students' hostels and offices are sub-standard and not properly maintained even where adequate funding was provided for capital projects. Imahiagbe, (1992) stated that a good number of the equipment supplied to secondary and technical schools by the Federal Ministry of Education in 1982, could still be found in crates for lack of accommodation. Momoh (1995) opined that technology education in secondary and post-secondary schools in Nigeria is not properly organized and practised because facilities and equipment are out-dated.

Olaoye – Williams, (2004) asserted that another constraint to quality assurance in our education system is the conduciveness of teaching – learning environment: which includes the availability and adequacy of physical structures such as classrooms, conducive office environment, communication possibilities such as the internet, electronic mail, as well as libraries and adequate instructional materials.

2.4.2 Human Resources for Teaching and Learning in Secondary Schools

Resources are very important in the development of qualitative education. According to Adeogun (1999), the success or failure of any system of education depends on the quality and quantity of resources made available to it and the use to which such resources are put. Therefore, all educational resources are vital for the achievement of educational goals both at community and national levels.

According to Jumare, (2015,p.77) human resources in the school system includes teachers, school heads, messengers, cleaners, host of communities, parents, ministry officials, potters, security officials, students and other humans that assist in running the day-to-day activities of the school. The success of any educational programme depends, to a considerable extent on the availability and utilization of skilled manpower of all types and grades in the entire school system. Therefore, all the activities of any school system are initiated and determined by the persons who make up the school. School plants, offices, machines and other material resources are unproductive without the direction of human efforts (Nwafor and Nwafor, 2012).

Olaleye, (2013) opined that getting the right result through people is the most important function of management. Therefore, the process involves attracting the right staff and retaining them to work effectively towards the success of the educational system. The efficiency of the school system depends largely on the competency of the staff who are to manage other resources available. Therefore, to improve the quality of outputs, high calibre of staff (both teaching and non-teaching) must be employed. Human resources, especially teaching staff are to control other resources and ensure that educational objectives are achieved, especially in educational institutions.

According to Stoner,(1978), any organization that does not plan for its human resources will often find that it is neither meeting the personnel requirement nor its overall goals effectively. No matter how beautiful an organizational programme and assets are without appropriate quantity and quality of human resources, the achievement of the organizational goals and objectives would likely prove abortive. For instance, over-staffing or an unhealthy shortage of human resources could lead to negative effects on the schools' internal efficiency, (Pitan, 2012). Utilization factor is affected by the rate of times a resource is used compared with the number it should be used for efficiency.

When educational resources are in short supply, definitely the available ones will be over-used or over-stressed. This will also have negative effect on their efficiency and on the teaching – learning situations. For instance, if the teaching staff in a school is in short supply, the available teachers are over-worked and their productivity becomes low and their efficiency and effectiveness become reduced. On the other hand, if excessive resources are put in place, there is under-utilization. Therefore, proper planning of appropriate quality and quantity is the only solution.

Ojuawo (1998) asserted that there is a significant relationship between variables such as class size and teacher-student ratio and performance in students' examinations. According to him, students' performance is related to size and quality of teachers. This shows that teachers constitute major inputs in the school system. Thus, adequate availability of skilled teachers should be a major policy concern of any school administrator.

2.4.3 The Role of the Teacher in Teaching and Learning

The teacher is one of the major human resources in the education sector, whose role is very crucial to every educational process.

The Federal Government emphasized in the National Policy on Education (2004) that since no education system can rise above the quality of its teachers, teacher education shall continue to be given major emphasis in all educational planning and development. Section 8 paragraph 71 of the policy outlined the purpose of teacher education as to: -

i. produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system;
ii. encourage further the spirit of enquiry and creativity in teachers;
iii. help teachers to fit into social life of the community and the society at large and enhance their commitment to national goals;

iv. provide teachers with the intellectual and professional background adequate for their assignment and make them adaptable to changing situations; and

v. enhance teachers' commitment to the teaching profession.

Ukeje, (1991) asserted that teachers are the foundation of quality in the schools. It is their quality, efficiency and effectiveness that the future of organized education depends. It is the teacher, who, according to him in the final analysis, translates principles, policies and ideas into action.

Vighnarajah, Su-Laun and Abu-Bakar, (2008) argued that a teacher's performance towards his or her teaching assumes an important influence on the quality of an educational programme, and eventually on the competencies of graduates.

Unfortunately, many findings have revealed a lot of problems as regards supply of adequate qualified teachers and particularly teachers in the secondary schools. Lawal, (2000) identified lack of fund and inadequate trained technical manpower as factors affecting the implementation of the technological education programme in the country.

Adio (2006) examined the problems and prospects of learning Introductory Technology in Ilorin, Kwara state. His findings revealed that inadequate supply of skilled manpower for teaching of the subject constitutes a serious and major problem to the effective teaching and learning of many subjects in the schools within the state. He also added that inadequate supply of teaching/learning facilities has a negative effect on the teaching and learning generally in secondary schools in the state. Talking about the quality of teachers, Olaoye-Williams, (2004) asserted that quality of product of the school system is largely tied to the calibre of teachers imparting and enhancing learning. He went further to state that there is high relationship between teacher's quality, effective methodology and learning outcomes. This means that where the teachers' quality is low, the output will be low.

Shehu, (2008) stated that one of the major problems confronting the attainment of qualitative secondary school education in Nigeria, despite the provisions made in the National

Policy on Education is that of inadequate qualified teachers. According to her, this problem originated in 1976 when the Universal Primary Education (UPE) programme was launched. Since that year, there has been a mass enrolment of children into primary schools which equally yielded a high demand for secondary education. This suggested that more teachers were needed and because they were not available, many unqualified persons were employed to teach in secondary schools.

It is in the opinion of some scholars that teachers should continue to develop themselves after their initial pre-service training. Akpa (1998), Adio (2006) and Abdulkareem (2008) expressed the views that continuous learning and development among teachers is a necessity and requirement for every individual. Teachers who stop learning after their pre-service training will fail to fulfill their roles effectively. Their ability to synthesize content with pedagogy and technology to effectively generate current pedagogical-technological-content knowledge is limited. Their creativity would fade and teaching would become dull and boring.

A teacher also needs to develop strategic knowledge to face troublesome and critical teaching situations and build wisdom in his practice. Acquisition of both content and pedagogical knowledge by the teachers should not stop at pre-service training, but they should continue to be having in-service training.

Oloko-oba, (2008) expressed the view on the role of the teacher in learning when she stated that "it is the teacher who translates the curriculum into practice. He/she interacts with the subject matter and the learner. It is the interaction between the "teacher", the "subject matter" and the "learner" that brings about learning". She cited the works of other researchers such as Newson and Lata (1994) which supported her claim that major dimensions of teacher's knowledge relevant to classroom teaching include subject-matter-content knowledge and pedagogical-content knowledge. This is because research in science education indicates that teachers who possess subject matter expertise and ability to present the subject matter to

their students engage in those class activities that facilitate students' learning, such as free-ranging class discussions of content.

2.4.4 Teaching and Learning in Secondary Schools

Teaching and learning involve activities that trigger the learner to think critically. Education trains individuals, gives him knowledge and skills that enable him solve the diverse problems or challenges that come his way. Ajayi, 2015, defined teaching as various activities undertaken by a more knowledgeable person in order to enable the other to learn. He went further to say that for teaching to be successful, it must satisfy a number of requirements. Firstly, teaching must be methodical. Secondly, it must be planned. Thirdly, it must result from resourcefulness on the part of the teacher. Fourthly, it must be activity – based. Lastly, it must be related to learners' experience.

Ajayi (2015) cited Osokoya, (1990), who asserted that for teaching to take place, there must be a change from the learner resulting from experience. According to him, the change in behavior must be permanent before it can be regarded as learning, and learning can take place in the area of cognitive, that is knowledge, facts or ideas, affective or manipulative. Materials learnt must be related to the daily life of the learner in order to make learning meaningful. A successful teaching and learning process in secondary schools hinges mainly on effective instructional plan and unique selection and utilization of adequate learning resources (Nwachukwu, 2014).

The curriculum of secondary school education in Nigeria is so enormous that it prepares young people for full adults lives in the complex and dynamic world. Adediran (2014) claimed that effective teaching in secondary schools should emphasize the use of activity oriented method and instructional strategies that will make students achieve their learning objectives.

Teaching brings understanding; it involves a teacher, a learner and subject matter and teaching materials. Therefore, to bring about learning, the teacher engages in certain activities such as talking, demonstration, and giving instruction, etc. All these are the various strategies to bring about learning (Adediran, 2014).

Teachers need to use different instructional strategies to ensure students-centered method in the classroom for creativity, innovative and critical thinking purpose in students. It is therefore important that the major implications of instructional strategies be reflected in the classroom practice in secondary schools in North–Central Geo–Political Zone of Nigeria. According to Ada (2008), teaching in the class is no longer conceptualized in the narrow sense as merely a matter of teacher addressing a class but an outcome of inter-related activities. He further maintained that this involves the organization of the content of the lesson, using symbols of a given language and involving appropriate methods and materials to send the message across to the learners. This implies that the passing of the message will be enhanced by the use of symbols and appropriate instructional materials to bring about a considerable measure of results due to the significant impression they create on the learners' senses. He stressed that instructional materials present facts in condensed form, facilitating learning, taking care of large audience and activities, developing students' motivation and integration of materials. Instructional materials have turned out to be an important part of modern teaching because they enhance the effectiveness of the teacher in the transmission of worthwhile behaviour to the learners. According to Bua and Adzongo (2014), a good instructional materials can supplement written or spoken words and bring things to life in a way which words cannot do. For example, word can describe place and objects but a picture immediately makes it reality. Instructional materials actually play an important role in the teaching and learning process in a secondary school. They went further to state that with what is happening in the secondary school, it is equally clear that government alone cannot afford to provide the necessary materials for effective teaching. Principals need to be creative in generating revenue

from other sources in order to meet these challenges. However, in some secondary schools teachers are seen making and improvising instructional materials. Aboho, (2003) confirmed this when he stated that teachers are often seen producing teaching aids and other materials that school needs to promote effective teaching and learning. He emphasized further that this is specially necessary because government does not provide most of such instructional materials. To this Mordi (2009) lamented that many schools in Nigeria, apart from the model schools and federal government colleges hardly have adequate material resources for quality and effective teaching and learning of many subjects in the schools. He noted that in some cases, lack of knowledge in selection and utilization of instructional resource on the part of the teachers could be the problem.

The quality of teachers in secondary schools can affect teaching and learning activities. According to Osuolale (2014), the quality of teachers depends largely on the kind of training they receive, both at the academic and professional levels – that may affect their teaching activities. These are evidences of other problems affecting teaching and learning in secondary schools in Nigeria.

Osuolale (2014) mentioned the shortage of qualified teachers in many of our secondary schools particularly in the rural community which is invariably affecting teaching and learning activities. He added that most laboratories are not well-equipped. Nwachukwu (2014) highlighted in his study that all the school facilities like equipment, seats were not adequate, most of the learning resources were not adequate for qualitative teaching and all factors used hinder effective utilization of resources for qualitative teaching – learning in the secondary schools. Absence of conducive environment has been the cause of poor teaching and learning in our secondary schools in Nigeria.

2.5 Financial Resources in an Organization

This is money reserves for capital projects and to pay salaries of teachers, administrators and other non-academic staff in a school. It also includes operational costs such as money for buying of consumable materials and for maintenance of school facilities such as transportation, buying of fuel, grease, etc.

2.5.1 Funding of Education in Nigeria

Education funding by various agencies varies from one country to another and between various levels at different times. In countries where education is regarded as a social service and the per capita income is relatively high, it is expected that the public sector would be the major source of finance to education. On the contrary, where private benefits of education are considered to be high, a large proportion of finance to education would be paid by the private and individuals and the private sector contribution would be high (Akangbou, 1987). Funding of education can be from the following sources as relates to Nigeria.

a. ***Government Sources***

Federal Government Sources

Based on the country's legal structure, the Federal Government of Nigeria funds all the federal educational institutions, mostly tertiary and post-primary institutions. The funding is done through the Federal Ministry of Education (FME) and its educational parastatals such as National Universities Commission (NUC), National Board for Technical Education (NBTE), National Commission for Colleges of Education (NCCE) and National Universal Basic Education Commission (NUBEC). Legally, the federal government collects the revenue accruing to the country and keeps the lion share of the revenue. Indeed, the federal government exclusively controls all the key revenue sources of the country, (Lawal, 2002). These include oil taxes as well as non-oil taxes, company income tax, customs duties, personal income tax, etc.

Olagboye (2004) pointed out that the sharing formula for the distribution of all federally collected revenue which forms the federation account had been 48.5% for the federal, 24.0% for the states, 20% for the local governments and 7.5% for special funds from 1993 to 2002 when a review was proposed. Apart from this, the federal government had been able to raise more funds for education through the introduction of Education Tax Fund established through Decree No.7 of 1993, as amended by Decree 40 of 1998.

Financing of education in Nigeria by the various governments had been a controversial issue. It had been noted as reflected in the large proportion of the government spending allocated to education in the early independence era which had began to dwindle as from 1980s.

Table 2.1: Federal Allocation to Education as Percentage of Total Budget, 1999-2003

Year	Amount (N. bn)	Percentage of Total Budget
1999	27.7	11.12
2000	40.4	8.36
2001	62.6	7.0
2002	73.4	5.9
2003	13,981.0	1.83

Source: Olagboye (2004:100)

The table above shows the federal government expenditure on education as a percentage of total budgetary allocation from 1999 to 2003. The proportion continued to drop from 11.12% percent in 1999 to 1.83 in 2003. Following the trend till the recent time Aibinu, (2018) in his discussion on financial allocation to education in Nigeria, presented the percentage allocation of the total budget of the Federal Government of Nigeria 2009 – 2018 as shown in table 2.2 below.

Table 2.2:Federal Government Budgetary Allocation to Education in Nigeria:2009–2018

Year	Budget	Education Allocation	% of Budget
2009	3.049 trn	N221.19 bn	7.25
2010	5.160 trn	N249.09 bn	4.83
2011	4.972 trn	N306.3 bn	6.16
2012	4.877 trn	N400.15 bn	8.20
2013	4.987 trn	N425.53 bn	8.55
2014	4.962 trn	N493 bn	9.94
2015	5.068 trn	N392.2 bn	7.74
2016	6.061 trn	N369.6 bn	6.10
2017	7.444 trn	N550 bn	7.38
2018	8.612 trn	N605.8 bn	7.03
Total	**55.19 trn**	**N3.90**	**7.07**

Source: Aibinu, (2018)

The table above shows Federal Government percentage of total budgetary allocation to education from 2009–2018 in Nigeria. The trend fluctuated between 4.83% to 9.94%. According to Olagboye (2004) it is by far lower than 26% of annual national budget which Academic Staff Union of Universities (ASUU) had been demanding for education over the years, based on the recommendation of UNESCO. In all the proportion had been far lower than the 26% recommended by the United Nations Educational Scientific and Cultural Organisation (UNESCO) (Dare, 2009).

The state governments have been able to finance their educational systems from their share of federal allocations and from their internally generated revenue. The local governments in the country are also made to be responsible for financing of basic education within their respective areas from their shares of Federation Account allocation. Olagboye, (2004) confirmed that deductions are from source and made available to the Local Government Universal Basic Education Authority and State Universal Basic Education Board; through the chain of command.

b. ***Private Sources***

Private sector had been always active and alive in their contribution and financing of education in Nigeria, right from the colonial period. Various communities had been contributing to the financing of education through self-help projects. According to Lawal

(2002), many communities' schools were built and equipped and later they asked the government to takeover.

Igwe (1988:10) attributed the rapid growth of education in the Eastern States of Nigeria to such community efforts and projects. In terms of personal contribution the parents and Parents Teachers' Associations (PTAs) provide fund for financing education through the payment of school fees, levies, development levies, PTA dues either in cash or in kind and both in private and public institutions.

Another private source is the contribution of private companies, benevolent individuals and philanthropists who have contributed in one way or the other to the financing of education. Some of individual philanthropists and groups often quietly make financial donations in support of worthy educational endeavours (Olagboye, 2004).

Foreign Aid Sources

Foreign Aids have been major sources of financing education for some time. A good number of international organisations as well as friendly benevolent countries have been providing financial support either in cash or mostly in kind for education in Nigeria.

According to Udoh, Akpa and Gang (1990), such foreign organisations include World Bank, United Nations Educational, Scientific and Cultural Organisation (UNESCO), United Nations International Children Education Fund (UNICEF), United States Agency for International Development (USAID), etc. According to them the aids had taken the forms of:

a. supply of expatriate teachers as well as teaching and learning materials.
b. scholarship for studies abroad.
c. Financing of institutions in cooperation with governments, communities or private individuals.

2.5.2 Methods of Financing Educational Institutions in Nigeria

The National Policy on Education (2004: p.61) expresses education as an expensive social service which requires adequate financial provision from all tiers of government for successful implementation of the educational programmes. Education is not free, therefore it has become abundantly clear that the government source alone cannot meet the country's educational needs. In Nigeria, both governments and individuals have been financing education. Therefore, this section is discussed under two sub-headings of government methods of financing educational institutions and private financing of education.

Many scholars such as Akangbou, (1987); Adesina, (1980) Eresimadu, (1996), Lawal, (2002) and Jumare, (2015) have highlighted methods of financing education and other cost saving devices in Nigeria. Some of these methods include tuition fees (school fees), education levies, government subventions, (grants), donations, endowment funds, loans, revenue from school commercial activities, federal government agencies, interventions, and non-monetary and cost-saving devices. The methods are further explained below:-

i. ***Tuition fees (school fees):*** When students attend a school or any of the tertiary institutions, they may be asked to pay tuition fee for teaching they receive as part of their contribution as beneficiaries of education. This form of raising funds is charged on every child and it forms a very important source of finance to schools.

ii. ***Education levies:*** This is another form fees are levied on the students for the services they receive in the school or tertiary institution. It may be development levy, water levy, examination levy, science laboratory levy or other forms of levy for one service or the other.

iii. ***Government subventions (Grants):*** Educational Institutions that are publicly-owned depend largely on the owner government for finance. This method of funding education is usually very important because in most countries, education is seen as a social service and as such governments allocate substantial proportion of their annual

budgets to the provision and financing of education, Adesina, (1980) asserted that government grants may be in form of capital grants or recurrent grants.

According to him, capital grant is a bulk payment to the school authorities for erection of new buildings or purchase of school equipment or different types of chemicals.

Recurrent grant is the grant the government gives to cover recurrent annual expenditure such as payment of salaries and allowances of staff, buying of consumable materials such as chalk, fuel and other consumable materials.

iv. ***Endowment fund:-*** Rich citizens or philanthropists assist education by means of endowments. These are funds made available by individuals or group of individuals who have the resources especially for the advancement of education. Endowment funds through Old Boys Associations and Alumni Associations were recently introduced in some institutions to assist them to execute their development plans. Lawal (2002) highlighted that Nigerian universities have for sometimes been launching endowment funds, but very little has been realised from these launchings.

v. ***Foreign aids:*** These are financial assistance from International Organisations such as United Nations Educational Scientific and Cultural Organisation (UNESCO), United Nations Children Educational Fund (UNICEF), Canadian International Development Association (CIDA), International Private Organisations such as Rocky Feller Foundations, etc. and from rich and benevolent countries.

Adesina, (1980) explained that external aids to education can take three forms:-

(a) Supply of expatriate teachers.

(b) Scholarships for studies abroad or at home.

(c) Financing of institutions or of particular sectors of education.

He explained further that external aid does not usually come directly to individual institutions but to the government or organisations who would later distribute the aids to their client institutions. In Nigeria, all forms of external aid or assistance are coordinated by the

Bureau for External Aid of the Federal Ministry of Education. However, Lawal, (2002) lamented that unfortunately as the Nigerian oil was booming in the seventies, the contribution of these agencies declined, because of the impression that such aids were no longer necessary for an oil rich country like Nigeria.

vi. ***Bank Loans:*** Like any other organisation that can borrow funds to execute their projects, educational institutions, can as well borrow money from banks or any other financial institution to execute their development plans. Akangbou (1987) expressed the problem here that most educational programmes are not profit-making nor revenue yielding and as such lending agencies are usually unwilling to provide loans to educational institutions. Loans are usually granted by lending agencies, like commercial banks when there is guarantee from the government or some reputable organisations in case of default that such loans would be repaid by them. For this reason, most educational establishments have not been able to use this method of financing except few private schools' proprietors or proprietresses who are running their schools for profit making and could produce collateral securities.

vii. ***Revenue from school Commercial Activities***: Another method of financing education is through the sales of the school products and the establishment of revenue yielding ventures. The school could make some returns from the sales of school products such as agricultural products, arts and craft products, rentage of the school hall, fields and vehicles. Most secondary schools and tertiary institutions have gone into the establishment of some revenue yielding projects. Such projects are establishment of bookshops, farms, consultancy services, bus transport services and hotel and catering services. They undertake these projects with the hope of diversifying their sources of educational funds. Lawal (2002) observed that though it is a very good effort, yet up till the present time, the contribution of this method is still very insignificant. However, there is hope that the method could play a greater role in the future particularly when the government is forced to reduce its grants (subventions) due to increased pressure from other sectors of the economy.

viii. ***Parents Teachers' Association (PTA) Levies:*** Many PTAs charge compulsory levies to individual students and these levies are paid by the parents for school improvement and projects such as building of assembly hall, provision of pipe-borne water, building of school security walls, buying of school bus, etc.

ix. ***Federal Government Agencies' Intervention:-*** Since the federal government has more taxation ability and with the oil revenue that has boosted its financial strength, some federal government agencies are serving as alternative measures to solve the problem of financing education in Nigeria. Such agencies are Tertiary Education Trust Fund (TETFUND) (formerly Education Tax Fund (ETF), and Education Trust Fund (ETF)) and Petroleum Trust Development Fund (PTDF). Education Tax Fund was established under Education Tax Act of 1993 and amended to become Education Trust Fund, by Act No.40 of 1998, whereby companies and corporations with certain standard operation capacity, having more than 100 employees were to contribute 2% of their annual profits to the fund (Lawal, 2002). The fund was established with the objective of providing additional source of educational financing, (Olagboye, 2004). The fund raised is used to improve the quality of education in various institutions in the country including secondary education. However, the Education Trust Fund was later transformed into Tertiary Education Trust Fund under TETFund Act – Tertiary Education Trust Fund Act of 2011 as an intervention agency charged with the responsibility for managing, disbursing and monitoring the education tax to public tertiary institutions in Nigeria.

(b) ***Financing the individual's education***

Education involves the direct participation of both the government and the individual. While the government is concerned with the provision of schools, universities and other institutions to attend, the individual is concerned with the provision of necessary materials and facilities that will make his learning possible and comfortable. He has to incur some expenses, buy materials, equip himself and fund his own education one way or the other as recipient of

education. For instance, at secondary school level, a student will have to provide himself or herself with textbooks, writing materials, exercise books, school uniform, transport fare, sports and games materials, and other materials. This individual funding can be done with parental or relatives' contributions, scholarships, loans or through governments' provision of "free" education, (Akangbou, 1987).

i. ***Sponsorship by Parents and Relatives*:-**Parents consider the provision of education for their children as part of their responsibilities. They endeavour to make funds required for such training to be made available. In a situation where parents are extremely poor, relatives are contacted for assistance. In Nigerian society, it is a common practice for parents to send some of their children to their relatively richer brothers or sisters to train. In a situation where this is not possible, the training of the children is programmed in such a way that the first child is trained to a certain level and asked to take up a job to train the younger ones. When this type of private sponsorship is not available, the individual may resort to loan or other methods.

ii. ***Free Education:-*** Free education involves provision of education to the citizens of a country at no tuition cost for them. In this case, the government pays fully the cost involved in the provision of teaching. There will only be minor expenses for the individual to incur which could be easily met through other methods of funding.

iii. ***Loans*:-** Individuals occasionally fund their education by borrowing from relatives or local money lenders. These money lenders usually charge exorbitant interest rates, which makes the use of loans unattractive. Loans by individuals are therefore taken as the last resort. The best lending option available to many Nigerian students is the loan granted by the Nigerian Students Loans Board (NSLB). This board grants loans of varying amounts to deserving Nigerian students to study at home or abroad. These loans are expected to be paid back as soon as the beneficiaries complete their training and start working. Lawal, (2002) asserted that unfortunately, the NSLB has been finding it difficult to recover loans from the beneficiaries because they refuse to pay back. Basically, the amount made available to the

NSLB by the Federal Government was supposed to be used as revolving loans whereby those who have completed their programmes pay back and then the money is made available to other applicants. As a result the board has stopped granting any loan.

iv. ***Scholarships and Bursaries:-***Award of scholarships and bursaries is another method by which individuals can finance their education. According to Akangbou, (1987) scholarships are awarded by governments to deserving citizens either on the basis of merit or indigency or in an attempt to encourage educationally backward areas of the country or state. Apart from government, companies, voluntary agencies, philanthropists and communities can offer scholarship awards to individuals to pursue further education. Award of scholarship usually involves a small number of individuals.

In some cases, governments may be interested in paying for their citizens through the award of bursaries. Bursaries are usually of a fixed amount, irrespective of the programme of study being undertaken. In Nigeria, both scholarships and bursaries have been used.

Generally, the discussion above has shown that the governments at various levels, individuals, parents and relatives, voluntary agencies, communities and companies and the foreign agencies all participate in financing education in Nigeria. According to Akangbou (1987) these could be grouped into three main sources as public sector, private sector and external agencies. The contribution of these sectors in funding education over time and between different levels of education actually varies.

2.5.3 Provision and Utilization of Finance in Secondary Schools in North-Central Zone of Nigeria

Provision and utilization of finance in a school involve raising of funds and ensuring that funds so raised are utilized in effective and efficient manner towards the achievement of the goals of the school. In secondary schools in North-Central States of Nigeria, government sources of provision of finance alone cannot meet their financial requirements, therefore, other sources of generating school funds are exploited.

Bua and Adzongo (2014) identified the following sources of provision of finance to secondary schools in some parts of North-Central States of Nigeria. These are:

a. Government grants

b. School fees

c. Parents Teachers Association (PTA) Levy

d. External aids

e. Other Sources

f. School activities

a. Grants – These are funds that governments and other governmental organizations give to run schools. Grants are spent for the purpose(s) indicated against them (Okwori, 2004). Grants always come in two categories. (i) Capital grants and (ii) Recurrent grants

Capital grants are expenses involved in respect of educational programmes or activities for over a period of some years on provision of some capital projects such as buildings, libraries, laboratories, machines, etc., while recurrent grant is voted for expenditure in respect of educational programmes usually for a period of one year on con-current items such as salaries, allowances, stationeries, maintenances services, etc.

It is important to note that only government owned and grant aided secondary schools in the area that are given grants (Bua and Adzongo, 2014).

b. Fees: – with the trend in the macro-economy and the need for more fund in the secondary schools, school fees are charged to supplement government grants. In private secondary schools, fees charged stand as the major source of provision of finance to many of them.

c. Parent Teachers' Association (PTA) levies: – In many secondary schools in the zone, both public and private, Parents Teachers' Association charge compulsory levies on individual students. These levies are paid by parents for improvement and projects

identified to be needed in the school such as construction of assembly hall, provision of electricity, buying of school bus, etc.

d. School Commercial Activities: – Both private and public secondary schools do raise revenue in one way or the other through school commercial activities. In some, it may be through sales of agricultural products or hiring out of the school hall, playground or school bus, while in some, it may be through drama, cultural shows, arts and craft.

e. Loans: – Secondary schools in the zone could obtain internal and external loans from banks financial institutions and non-bank private sector. So also, many individuals could obtain loans to finance or sponsor their children's education. Though this may be in a painstaking condition, however, many have taken the risk.

f. Government Taxes and Levies: - Governments in Nigeria always impose some amount on every taxable adult on annual basis. These are paid into the cover of the government both at local and state government levels. This method helps the state and local governments to increase their revenue base. The taxes do not go to the schools directly. At federal level, sub-charges are imposed on corporate bodies in the country to raise revenue for educational programmes. The Education Trust Fund is charged with the responsibility of collecting and disbursing such funds to schools. According to Asemah, (2010) all operating companies in the country are levied two percent (2%) of their annual profit to this fund apart from their normal annual taxes.

g. Community participation: Many communities have been found providing financial assistance to secondary schools in the zone – many have done it in kind by participation in construction of buildings such as assembly halls, provision of pipe borne water, electricity or some other areas of need to secondary schools. This is more common in public or voluntary agency secondary schools that have been taken over by the government.

h. Endowment fund: Rich and benevolent individuals do assist schools by means of endowment. Some assist to build libraries or schools' halls to be named after them or their dead parents. Some equip the library with books or supply equipment to schools. In some places they come together as clubs or societies. They assist schools for the development or advancement of education in their areas.

l. Old Boys Associations: - Old students usually come in to assist schools in the name of Old Boys Association or Old Students Association to assist schools in providing financial assistance to their old schools or engaging in construction of some facilities needed in their old schools.

Money realized in secondary schools in the zone are utilized for various purposes. The money is utilized for school construction and expansion of capital works, such as construction of classrooms, libraries, laboratories, workshops, etc. Another major area of utilization of finance in secondary schools in the zone is the area of staff entitlements. These are teachers' salaries (TS) including their allowances. It also includes other staff salaries and entitlements.

Other major area of utilization of finance is in operational funding. This covers a school's running costs – apart from staff salaries. These are property maintenance, classroom materials, buying of books, laboratory materials, functional laboratory reagents, stationeries, workshop equipments, instructional materials, etc.

Finally, finance realized on the schools are used for payment of interest and rentage in some secondary schools, particularly in the privately owned secondary schools in the zone. Principals who are the chief accounting officers of the financial resources of their secondary schools work hand in hand with their proprietors and proprietresses. According to Boa and Adzongo (2014) they are supposed to generate funds internally to run their schools, as well as ensure that funds provided by stakeholders are properly managed.

Effective utilization of financial resources available depends upon the financial management capability of the principals. Financial management aims at securing funds and

utilizing such funds effectively and efficiently on the project mapped out. Ogbonnaya (2000) asserted that good performance of any school programme depends very much on the way the financial inputs are managed. Without good financial management, the programme of secondary schools will not be properly implemented. He said that good financial management leads to increase in the output of funds utilization and proper allocation of the funds among competing alternatives. Furthermore, Asemah (2010) sees financial management in schools simply as implying how finances are raised in schools, the identification of sources of schools' finance, methods employed in its collection and how collected revenues are effectively applied to the school system to achieve the stated goals and objectives of the school.

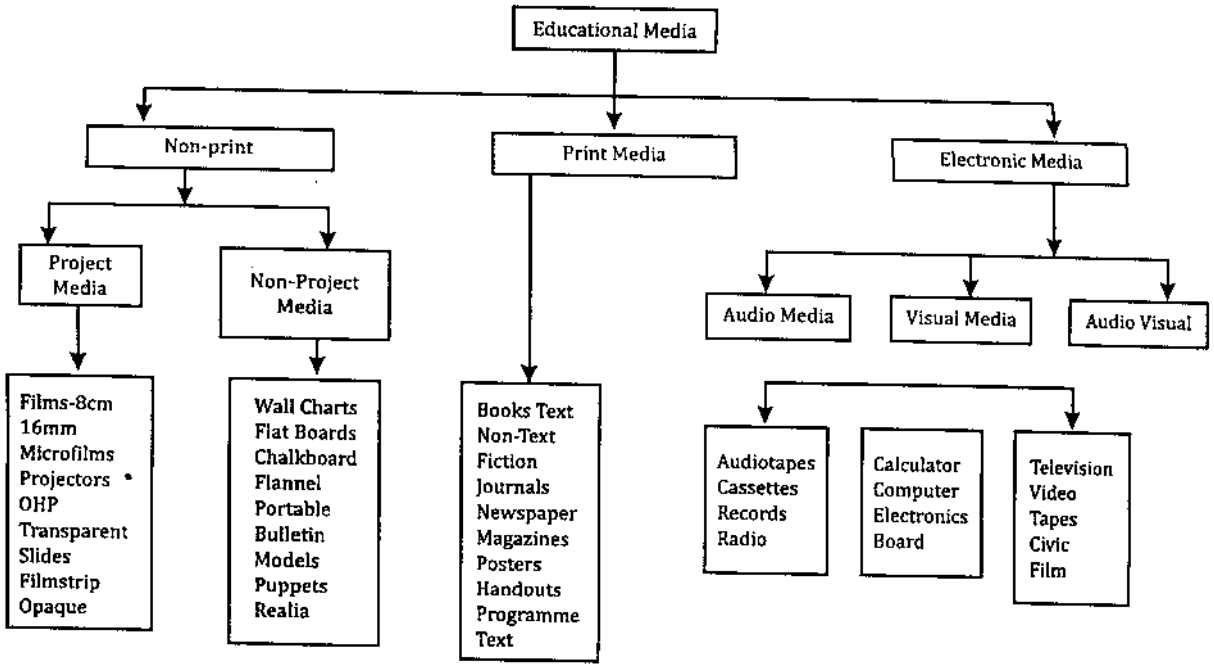
2.6 Material Resources

Material resources are things of material value and usefulness to teaching and learning process owned by a school such as books, tables, chairs, cupboards and other forms of furniture, workshops, machines and equipment, laboratories, equipment, reagents, computer sets, library books, videos, etc.

2.6.1 Classification of Instructional Materials

Instructional materials can be classified into different types depending upon the individual doing the classification. Some classify the materials according to how they are used or according to the senses they provide or how they are produced. Below is the classification of instructional material according to prints, non-prints and electronic media as presented by Nuhu and Jimada, (2012, p.51).

Fig.V: Categorization of Instructional Media



(Adopted from Nuhu and Jimada 2012 p.51)

The whole materials are called educational media. In the middle is the list of print media. This includes textbooks, journals, newspapers, magazines, posters, programmes etc. To the left is the category of non-print media. This can be divided into two as Projected Media and Non-Projected Media. (a) Projected media include films, projectors, slides, filmstrip, etc. (b) Non-project media include wall charts, chalkboard, flannel bulletin, puppets, cartoons, realia, etc. To the right is the category of Electronic Media. This has been divided into three (a) Audio Media, (b) Visual Media and (c) Audio Visual media. All could be found within Audio tapes, Cassettes, Recorder, Radio, Calculator, Computer Electronic Board, Television, Video-tapes, films, etc.

Appropriate selection of materials makes utilization of instruction media to be resourceful and effective. In relation to this, Heinch, Molenda, Russel, (2006) suggested a six –lettered acronym as a model called ASSURE as a sure means of media utilization.

The authors of ASSURE believe that when their suggestions are followed it will 'assure' that the media become effective in the instructional process.

ASSURE as an acronym stands for:-

A - Analyse learners' characteristics

S - State objectives

S - Select, modify, or design materials

U - Utilize materials

R - Require learner responses

E - Evaluate

i. Analyse learners characteristics: – The first step in planning is to identify the learners. Your learners may be students, trainees or members of an organization. By so doing, the general characteristics that are related to the lesson content such as age, gender, class, intellectual aptitude, cultural and social-economic factors are to be known. A study of the learners' characteristics and capabilities will enable the teacher to choose his instructional materials.

ii. State objectives: - The second step is for the teacher to state the objectives in specific terms. This, according to the authors, is carried out by following the ABCD format. This format means stating the Audience, the Behaviour, the Condition and the Degree. If the objectives are well stated, it will promote and guide the correct selection of instructional media and methods. Knowing the objectives will also enable the creation of a learning environment in which the objectives can be achieved.

iii. Select, Modify, or Design Materials: - The third step is that once a teacher has identified the audience and state the objectives, the next thing is to select the instructional materials that match the objectives. When the media or materials do not match the objectives or are not suitable for the learners, it is advisable that the teacher modifies them. If modification is not feasible, then he designs his own material as the final alternative here.

iv. Utilize Materials: - The next step is planning how to use the materials and determine how much time will be spent. It is suggested that planning for utilization should take to the following procedure:- These are

- Preview the material
- Practice the presentation
- Prepare the environment
- Prepare the audience
- Present the material, and
- Follow up with class discussion and give small group activities or individual project.

v. Require learners' responses:- The next step is to require learners' responses. The authors stated that learnings/theorists have emphasized the importance of learners' participation in learning as well as constant reinforcement of desired behaviour. It has long been realized that creating opportunity for students' participation and students' response enhanced learning. Learning becomes most effective when you allow the learner to engage or involve in several senses (hear, touch, smell, see or taste) in the process of learning. Therefore, learners' response is required if learning is to be considered effective.

vi. Evaluate:- After the instruction, it is necessary to evaluate its impact and effectiveness. To get the total picture you must evaluate the entire instructional process. Evaluation is carried out before, during and after instruction. There are several ways with which evaluation is being carried out. These could be through paper and pencil test, oral questioning, interviews, projects, performance checklist, rating scale, and so on.

Proper and appropriate selection should be the concern of the teacher who plans to use instructional media for teaching and learning so as to have effective result. For a teacher to successfully select media, consideration must be made on the suitability of the material for the

intended purpose (Nuhu and Jimada, 2012). In addition, selection should be made appropriately in relation to the age, experience, level of conceptual attainment and culture of the learners.

According to Salami and Lagbe (2007) teaching-learning effectiveness, therefore, results from the interplay of various factors which include teachers' attributes and personal qualities; hence, ability to produce as well as use the available resources/materials to the benefit of the learner. Instructional materials are therefore only relevant and useful in the content if their use is to facilitate learning to advance a specifically and replaceable learning outcome. Thus transfer of learning involves the integration of media, equipment, method and personnel performing efficiently the functions required for achieving a learning goal. Instructional materials have supportive functions in the teaching and learning process. Its aids teachers' performance and pupils' understanding and achievement if utilized effectively.

2.6.2 The Role of Instructional Materials in Teaching and Learning

Instructional materials are aids to teaching and learning process. Medayese, (2012) asserted that instructional materials refer to all the resources within the reach of the teacher and the learners which are employed to facilitate teaching and learning. Instructional materials are materials or resources or forms of media that the teacher and the learners can use in the teaching-learning situation to improve the quality and quantity of learning (Salami and Lagbe, 2007). Other terms used to refer to these materials or resources are instructional resources, teaching aids, visual materials, educational media, curriculum materials, etc.

Oladejo, Olosunde, Ojebisi and Isola, (2011) cited Abdullahi (1982) who claimed that instructional materials or tools are locally made or imported materials that could make tremendous enhancement of lesson impact if intelligently used. Isola (2010) referred to them as objects or devices which help the teacher to make a lesson clearer to the learner, while Agina-obu (2005) described instructional materials as concrete or physical objects which provide sound, visual or both to the sense organs during teaching.

Considering the importance of instructional materials, Nuhu and Jimada (2012) asserted that instructional media play the following roles for teachers and learners among others:-

i. Provide concrete experiences and enable students to integrate prior experience with new learning. Concrete experience facilitates learning and the acquisition, retention and usability of abstract symbol.

ii. Help to support teacher-based instruction. Instructional media serve as aid to teaching.

iii. Instructional media can facilitate student drill and practice. For example, audio-tapes can be used effectively for drill and practice in spelling, mathematics and language instruction. The computer is also well suited for drill and practice exercises.

iv. Instructional media can help promote the 'discovery' or 'inquiry' approach to learning and teaching. Recorded video, for example, can be used to simulate learning activities.

v. Instructional media can help take over routine tasks of the teacher; thereby enabling him to have more time for other important tasks. Use of media enables the teacher to play the role of facilitator or manager of learning rather than a dispenser of information.

vi. Instructional media are particularly suited to individualized instruction. They can provide learners with specially designed or chosen materials to suit their individual needs, interest, abilities and experiences.

vii. Closely related to the point above is the use of instructional media in special education where exceptional treatments are provided even when in conventional schools. Thus, instructional media can help adjust instruction to different groups.

viii. Instructional media have taken instruction to non-formal settings outside the school. Learning and teaching now take place in homes, in business premises, in factories, in the markets, everywhere at any time. Instructional media have broken barriers to

education, whether cultural, physical (distance), environment, demographic or economic.

Further, on the role of instructional materials, Asokhia, (2009) cited Richard, (1981) found from his study that human beings remember 10% of what they hear, 50% of what is heard and seen and over 80% of what is heard, seen and done. This corroborates the Chinese adage which says that:-

What I hear, I forget,

What I see, I remember,

What I do, I understand.

(Salami and Lagbe 2007).

The teacher has the role of managing the instructional atmosphere of the classroom in order to provide a conducive environment for effective teaching and learning. Teaching and learning result from the interplay of various factors. Therefore, the ability of the teacher to produce, and use appropriate resources and instructional materials brings about effective teaching and learning.

2.6.3 Improvisation and Maintenance of Instructional Materials

Improvisation of instructional media and material refers to the process of creating or providing a substitute for something that is not available in its original form.

According to Salami and Lagbe (2007), improvisation is the act of making or producing a suitable alternative to be used to teach in the absence of the real thing e.g. car battery to be used to improvise electricity, balloon could be used to replace world globe, etc.

Ojo, (2010) sees improvisation as an element of creativity and the use of local resources in our environment to build, construct, mould or make instructional teaching-learning materials that can assist in the smooth dissemination and transfer of knowledge from teachers to students.

Salami and Lagbe (2007) highlighted the importance of improvisation by saying that:-

- Improvised materials could make learning possible in the absence of the original material e.g. car battery.
- Improvisation could be cheaper than the real thing which the school could not afford.
- It helps to get something suitable to replace the original.
- It could also be used for some time before there is sufficient money to buy the original.
- In rural areas where modern amenities are not available, improvisation could be very useful, e.g. torch light battery.

The teacher, therefore, needs cognitive skills for improvisation so as to make appropriate preparation and selection of instructional materials that could lead to the achievement of the lesson objectives.

Salami, (2008) cited the Science Teachers' Association of Nigeria (STAN) (1976) that described an improvised equipment as that "which is made by the teacher or even the school carpenter on the advice of the teacher". This shows that improvisation is not only what the teacher can physically produce by himself or herself but also materials that could be locally produced by the school carpenter or any other craftsman on the advice of the teacher.

On the result of improvisation, the material must be functional and must merit social and scientific recognition, and operation. It should have the utilitarian value (Umar, 2002, and Johnson 2005). Several authors have given different reasons for improvisation. According to Johnson, (2005), Salami, (2008), Asokhia, (2009) and Ojo, (2010), the following reasons are given for the needs for improvisation.

i. Lack of funds to purchase the manufactured or foreign made materials.
ii. Improvisation gives the teacher opportunities to be creative and innovative and thus enhances his opportunities for professional growth and development.

iii. In the era of increasing emphasis on student-centred approach to teaching and learning, improvisation becomes imperative if the teacher will be resourceful, effective and provide opportunities for learning by doing.

iv. During the depressed economy and high cost of foreign dollar or exchange, it becomes imperative and necessary to look for other means of providing needed aid, therefore improvisation becomes the option of coping with the situation.

v. Even when facilities and equipment are available, the increasing enrolment of students in secondary schools in Nigeria amidst static or decreasing facilities and equipment still poses the problem of insufficiency of facilities and equipment. Improvisation becomes the only answer to the problem along with repair, replacement and replenishment of consumable materials.

vi. By using local and community resources, learning becomes more meaningful because the learners are able to see the use and applicability of their learning within the context of the local environment.

Most important factors in improvisation are based on abilities, creativity and resourcefulness. The improviser must be resourceful and innovative in thoughts and results (outputs).

There is no doubt in the statement that education system is a system of production by imparting knowledge and skill on students in its educational institutions through teaching and learning process. The school or an educational institution could therefore be viewed as a factory which requires and makes use of money, men and material resources to facilitate teaching and learning activities. The school plant refers to physical facilities available in the school such as the school buildings, school field, toiletry, site and equipment. It includes instructional and learning resources. According to Olagboye, (2004), instructional and learning resources are materials which facilitate and render more effective the teaching-learning process in educational institutions. He explained further that "institutional materials as distinct

from learning materials are those whose use are confined to the teacher, while learning materials are those whose use are confined to the learner". Thus, school plant include controlled environment which facilitates the teaching and learning process, while at the same time protecting the physical well- being of the occupants. Udoh, Akpa and Gang, (1990) asserted that in order to meet the physical needs of the children, a safe structure, adequate sanitary facilities, a balanced visual environment, and appropriate thermal environment and sufficient shelter space for work and play should be provided.

Olagboye, (2004) lamented that though one of the avowed goals of educational services, as stated in section 9(88) (F) of the National Policy on Education (NPE) (1988) now section 8, paragraph 126 (h) of the National Policy on Education (2014) is to 'develop and promote effective use of innovative materials in schools'. The reality on ground is that this is one of the most neglected areas of the educational provision to the school system.

This is the more reason why the available ones in teaching and learning materials in schools should be carefully and properly managed and maintained. Maintenance of school plant and physical resources of the school is concerned with keeping the buildings, ground, fields, workshop and equipment in their original condition of completeness or efficiency. Maintenance is one of the important aspects of the management functions particularly in the school system (Udoh, Akpa and Gang, 1990).

Maintenance in the school system focuses on the services undertaken with a purpose of keeping and restoring all the components of the physical resources of the school to their optimum working conditions in order to make them useful and long lasting.

According to Knezevich, (1975) "the time it takes for a building to become physically obsolete depends on the quality of the original construction and materials as well as the quality of housekeeping and maintenance". In essence, the rate at which a building, material and equipment depreciates would vary according to the strength and texture of the materials, the climate, carefulness and maintenance given to it.

According to Olagboye, (2004), the main objectives or purposes of maintenance are among other things to:-

(i) conserve physical resources in a condition in which they will continue to render optimum service;

(ii) preserve the value of the initial investment on physical resources;

(iii) retain the good, aesthetic appearance of physical resources particularly buildings;

(iv) retain and improve the reliability of physical resources such as equipment, vehicles and other machinery with moving parts, etc;

(v) prevent and/or avoid wastage.

As a result of these, each school should have a proper planning for maintenance of school facilities. In his own assertion, Manga, (2015) suggested that the construction and utilization of school physical resources pre-suppose wear and tear. Thus, there must be adequate plan for the maintenance of school facilities, so as to keep them in good working condition. According to him maintenance activities include

i. Regular clean up of buildings, school grounds, toilets and other facilities in the school environment. There should be regular sweeping, washing and dusting of facilities.

ii. There should be prompt repairs of damaged facilities to restore them to their original state of functioning.

iii. Regular disposal of sewage and refuse should be sustained to ensure a healthy environment.

iv. There should be periodic expansion of facilities as well as of renovation of existing facilities to meet up with changing demands by pupils and teachers.

v. There should be delegation of duties on various aspects of maintenance. In addition, there should be regular checking to detect facilities that are faulty or damaged requiring urgent repairs.

vi. There should be a pro-active maintenance policy rather than waiting for total collapse of facilities and then reacting to the damage.

With these important roles of maintenance in the management of school resources, it is the responsibility of the school principal as the school administrator to formulate a kind of maintenance programme that would extend the life and usefulness of school buildings, equipment and other facilities.

2.6.4 Provision and Utilization of Instructional Materials in Secondary Schools in North-Central States of Nigeria

Instructional materials are significant and essential tools needed for teaching and learning of all school subjects to promote teachers' efficiency and improve students understanding and performance. Instructional materials are objects and devices that assist the teacher to present a lesson to the learners in logical and effective manner. They are part of things that are used to facilitate, influence or encourage acquisition of knowledge, competency and skills. They may aid teaching and learning process and make a subject matter more understandable to students during teaching-learning process.

Akinleye (2010), observed that effective teaching and learning require a teacher to teach the students with instructional materials and use practical activities to make learning more vivid, logical, realistic and pragmatic. Ekpo (2014) also supported that teaching aids are always useful in supporting the sense organs.

Arum, (2015) claimed that instructional materials promote efficiency of education by improving the quality of teaching and learning. In other words, instructional materials promote efficiency of education by improving the quality of teaching and learning. It offers a variety of learning experiences individually or in combination to meet different teaching and learning experiences as well as encourages learners to become skilled technicians with an endless passion for learning. Nwanyanwu (1999) in Okobia (2011) summarized the importance of using instructional materials in the classroom to include:

a. Making the subject matter more real.

b. Explicating difficult concepts.

c. Making the learner experience what is being learnt.

d. Helping to fire the imagination of the learners.

e. Preventing misconceptions.

f. Making learning interesting amongst others.

It can be concluded that the purpose of instructional materials is to promote efficiency of education by improving the quality of teaching and learning. In the view of Aduwa – Ogiegbaen and Imogie (2005) these materials are recourses including, audio, tape recorders, video tape recorders, slide projectors, opaque projectors, overhead projectors, still pictures, programmed instructions, filmstrips, maps, charts and many more.

Ironically however, most secondary schools in North-Central Geo-Political Zone of Nigeria because of one handicap or the other, are hardly properly equipped with audio-visual materials. Even where some schools are privileged to have them, they are underutilized (Adewoyin, 2004). The constructivists, the theoretical frame upon which the research is based, suggested that learning is more effective when a student is actively engaged in the learning process rather than attempting to receive knowledge passively (Taber, 2011). Learners are the makers of meaning and knowledge. When they encounter something new, they tend to reconcile it with their previous ideas and experience, maybe changing what they believe, or maybe discarding the new information as irrelevant (Thirteen Ed online, 2004). Knowledge based on constructivist learning theory involves some form of guided discovery where the teacher avoids most direct instruction and attempts to lead the students through questions and activities (using relevant instructional materials) to discover, discuss, appreciate, and verbalize the new knowledge. This ideology has given birth to teaching and learning strategies' use of tools and resources involving the use of computers, simulations, multimedia projectors, animations, the internet, etc.

Obanya, (2004) highlighted that several studies carried out in some areas in Nigeria indicated that the results of senior school certificate examinations were completely bad in nearly all subjects offered by the students and that only about 10% of the candidates 'meaningfully passed' the examinations. Many writers have rendered their comments over this. Abdu–Raheem (2016) asserted that non–availability and inadequacy of instructional materials are major causes of ineffectiveness of the school system and poor performance of students in the schools. Ahmed, (2003) confirmed that in most secondary schools in Nigeria, teaching and learning take place under a most un-conducive environment without access to essential materials. Secondary schools in North-Central Geo-Political Zone of Nigeria are in similar situation. Enaigbe, (2009) equally noted that basic materials such as textbook, chalkboard, and essential equipment such as computer, projector, television and video are not readily available in many secondary schools.

In his own study of some secondary schools in North–Central States of Nigeria, Osuolade (2014) found that lack of instructional aids also contribute to the problems of teaching science subjects in many schools in the area, and that absence of conducive environment has been the cause of poor teaching and learning process in the secondary schools in the area of the study.

Abdu – Raheem (2016) encouraged teachers to improvise teaching aids because they are in great measure of enhancing learners full participation in the lesson, giving room for inquiry, enhancing problem solving, discussion and clarification of issues and ideas between students and the teachers. Jekayinfa (2012) also identified the importance of improvisation of instructional materials as substituting one thing for another to make learning concrete and real and to allow the students to participate in the production of materials in a more teacher - students resource situation. Skillful teachers should improvise necessary materials in secondary schools in North–Central States of Nigeria.

2.7 Provision and Utilization of Time

Time as a resource is the period workers spend in their work for the period of year. In the school system, time resource is the period teachers interact with learners in the school year as indicated by the number of periods a teacher is in the class. It is always guided by the class time-table or general school time-table.

2.7.1 Time Management in an Organization

Time can be described as a primary resource and control base for all human activities on earth. Sasson (n.d.) described time as a special resource that you cannot store nor save for later use and that everyone has the exact same amount of time each day. Therefore, time not well used cannot be retrieved. According to Atkinson (1988) time is the source of control of our activities. Time is not reclaimable because its movement is uncontrollable. Time can only be controllable in term of being well managed. We can only influence the present and through this influence the future as well. Managing time means to be better organized, working faster and more efficient and wasting less time. All it takes is a bit of discipline and organization. In the school system, it takes formulation of a good time table and following it in a disciplined manner.

Time management in an organization can be defined as the act or process of planning and exercising conscious control over the amount of time spent on specific activities, especially to increase effectiveness, efficiency or productivity. Time management is aided and achieved by a range of skills, tools, and techniques used to manage the time when accomplishing specific tasks, projects or goals.

According to Blair (n.d.) this requires setting a wide range of activities which include planning, allocating, setting goals, analysis of time, speed, organizing, scheduling and prioritizing. In any school system, time management is expressed in term of school time table or routine time table which is the process of planning and exercising conscious control over the amount of time to be spent on specific activities in order to achieve effectiveness and

efficiency of the school system. This process results in a plan with a task list or schedule or calendar of activities in form of a daily, weekly, monthly or termly planning periods associated with different scope of planning or review.

The need for time management in an organization cannot be over-emphasized because human activities at home, in the office, in school, in space and in every other places are all related to some element of time measurement. Blair, (n.d.) went further to assert that the themes arising from time management include:- creating an environment conducive to effectiveness, setting of priorities, carrying out activities around those priorities and the related process of reduction of time spent on non-priorities.

2.7.2 Importance of Time Management in an Organization

Time management is important for both personal life and organizational success. It teaches how to manage time effectively and make best use of it. According to Sasson, (n.d.), the following reasons make time to be so important and knowledge of the reasons can help one to use and manage time more advantageously:-

i. Time is a special resource that you cannot store or save for later use. Everyone has the exact same amount of time each day. Time not well used cannot be retrieved.

ii. Most people feel like they have too much to do and not enough time. They blame lack of time for their poor finances, unachieved goals, stress, bad relationships and not exercising their body. Wise time management can help you find the time for what you desire to do or need to do.

iii. You need time to get what you want out of life. If you wait for extra time to appear, you might lose the game of life. Through right time management, you can "create" the time you need, and not just wait for it to come. By planning your time wisely, you will have more time to do more things.

iv. Time management will help you set up your priorities.

v. Time is limited to 24 hours a day, so plan your life wisely.

vi. Time management helps you make conscious choices, so you can spend more of your time doing things that are important and valuable to you.

vii. You can learn to find the time for the things that are important to you. Even a small amount of time once a day, or even once a week, will take you closer to your goals, and you will be surprised at the progress you make.

viii. You become more productive using improved time management skills and tools, and can accomplish more with less effort and time. Time management can help you reduce wasted time and energy, help you become more creative and productive, and enable you to do the right thing at the right time. This will of course lead to more balance and fulfillment in your life.

ix. Life today presents so many distractions, and therefore, it is very easy to lose time on unimportant activities. Ask yourself, is watching this or that TV program, reading this or that gossip or participating in a certain activity is going to add anything to your life. Is the time spent on a particular activity well spent, or is just a waste of time and energy?

x. Life puts in front of everyone so many choices each day, and the question is, do you follow what appears on your way, or do you consciously choose what you want to do? Do you allow external distractions deter you from your goal, or do you use willpower and self discipline to walk toward your goal in a straight line, without wasting time and energy?

xi. Some inner detachment and inner peace are of great help in managing your time effectively. If you avoid expending too much emotional and mental energy on what people say and think about you, and if you stay calm in spite of distractions or difficulties, you can save a lot of time and energy, which you can spend on better and more rewarding activities.

He concluded by stating that there are many things one can do and tools one can use to manage time effectively. There is a lot of time wasted each day which can be put to better use. There are changes one can make which will effectively increase the time one has at his or her disposal every day. He asserted that thinking, planning, finding out how others manage their time and reading books and articles on time management will help in developing the skills and good ideas. Such thinking and planning would ease the strain and enable one to focus on whatever he or she is doing. In the secondary school system, such thinking and planning is done and time is controlled through the use of time table.

2.7.3 Time Table in the School System

The time table is the organizational structure that secondary schools use to control time in ways that balance effective teaching and learning groupings with an efficient use of human and physical resources (Government of South Australia, 2010). It went further to say that invariably, secondary schools find timetabling or scheduling an exercise in striking the right balance between the competing demands of students' curriculum preferences, staff experience, workload protections and the optimal use of physical spaces and learning technologies.

Fagbulu, (2004) asserted that time-table is the magic chart that regulates the pulse of the school. It dictates when classes begin, when a break should occur and when a day's work is done. It is thus an important piece of paper.

Secondary schools organize the works for each day and for the whole week so as to create the best fit for students' learning needs' within the limit specified by the school management or authority. From the time table, an observer could understand how time is used in a day or over a week. For instance,

Length of each lesson (a period).

Length of instruction time per day.

Length of instruction time per week.

Teachers' load expressed per minute

Teachers' load of lessons expressed per class

Number of lessons per week.

Some of the factors that may affect the making of a secondary school time table is the number of classes, number of subjects offered in the school, size of classes and number and quality of the teachers.

In terms of who is to make the time-table, Lewis, (1961), opined that the school head or deputy head should make the time table. According to him, he has the obvious advantages of framing the curriculum, he knows what changes that are needed in future years, and he knows the capabilities of his staff and how best they can be employed. Fagbulu, (2004) was of the opinion that preparation of time table should be undertaken only by experienced teachers who know the aims and goals towards which the school is striving, because preparing time table is not an easy job. After the general time-table has been made for the school, each class should have a copy of its own time table extracted from the master sheet and display it in the classroom. So also, each subject teacher in the secondary school should copy his or her own subject time-table for preparation of lessons and prompt attendance to the classes.

2.7.4 Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria

Time is one of the resources that a school and its administrator need to manage efficiently in order to achieve the school's goals. What makes time different from other resources used in a school system is that it cannot be accumulated or stockpiled like machines, teaching aids, desk and chairs, or replaced like a teacher or any non – academic staff. Time is irretrievable once it is lost or wasted. Therefore, it entails effective management to achieve the school's goals.

Effective utilization of time is very important and the school administrator should possess ability to produce and follow a schedule, meet deadlines, prioritize and minimize distractions and unimportant tasks. These are done to manage time wisely so that tasks and projects can be done effectively and efficiently. Principals, teachers and students who apply good methods of time management in whatever they do and stipulate time required for doing it always acquire good results. Prochaska–cue, Preston and Mahar, (2007) also opined that time management skills require four basic steps: decide what you want to accomplish; determine activities to reach each goal; make a daily 'to do' list, and set one's priorities every day. Akomolafe (2005) submitted that school administrators managerial abilities should reflect on their time management skills. They should devote available administrative time to immediate administrative task and activity occurrence. In secondary schools in North–Central Zone time utilization is displayed by daily routine which begins with morning assembly followed by lessons, mid-day meals and end of the school day with sporting events in some. They have the school timetable which is a magic chart that regulates the pulse of the school. The timetable dictates when a class begins, when break occurs and when a day's work is done (Fagbulu, 2004). This is the same in all secondary schools in Nigeria.

Time is a key resource in the management of a school as a system. Clear job specifications for staff, negotiated through sympathetic and reciprocal process of appraisal which are related to the aims and objectives of the school can be useful instruments in achieving more effective utilization of the total bank of time available and utilized by all the staff in the schools. In North–Central States of Nigeria the use of time resource has assisted in coping with the school academic standards in the secondary schools. The principals set some priorities and with the teachers the process of time allocation is shared with some delegation of task. The principal turns over the bulk of the job over to staff members according to their areas of specialization and job description. The principals thus, have control over their time in the classroom through the use of timetable. In planning the years' work, the principal sets the

opening schedule and plans how to execute the years' work. In the planning process, the curriculum is set out for each class in every subject taken in the school, the syllabus is reviewed, teacher assigned for each subject and class, and what the school should do for the year is determined.

In the process of delegation, administrative duties of the principal are shared among senior staff for the principal to have time devoted for supervision. As a school grows in size, the complexity in the delegation of duty becomes prominent and important. Delegation of authority involves assigning duties and responsibilities to those the principal expects could aid him in doing the work of the school such as head of department, examination officer, sports or health officers, etc. Definitely a principal who tries to do all the work for the school by himself will be working with "things" rather than people. In addition, delegation of duties makes teachers feel motivated, and fulfilled and they learn on the job for future challenges. Thus, time provision and utilization on the school system have impact on the academic performance of the students and operational activities of a secondary school in North–Central States of Nigeria. In the classroom, each teacher manages his instructional time. Time for his lesson delivery, time for students' activities and time for evaluation. He plans and organizes utilization of his lesson plan.

2.8 Relevant Empirical Studies

This current research titled "Stakeholders' Perceptions on Provision and Utilization of Resources in Secondary Schools in North-Central Zone, Nigeria" has relationship with some other researches conducted on availability and utilization of educational resources in secondary schools. Some of the researches are reviewed as below.

Ekundayo and Alonge (2012) conducted a study on "Human and Material Resources as Correlates of Academic Performance of Private and Public Secondary School Students in Ondo State, Nigeria". According to the researchers the purpose of the study was to find out the

relationship between human and material resources and academic performance of private and public secondary school students in Ondo state. The study also investigated the academic performance of private and public secondary schools in West African Examination Council (WAEC) examinations.

Five hypotheses were raised and tested at 0.05 level of significance. The researchers adopted a descriptive research of the survey type. The population for the study consisted of all the public and private secondary schools in Ondo state and through a stratified random sampling, 45 public and 49 private secondary schools were used as samples. The researchers used an inventory format to collect information on the level of availability of human and material resources in the schools as well as the students' results in senior secondary certificate examinations for three academic sessions (2008 – 2010). The data collected was analyzed using Pearson Product Moment Correlation and t-test statistics. The result of the test of the first hypothesis showed that there was no significant relationship between human resource availability and students' academic performance in both public and private secondary schools. The researchers asserted that it is one thing to have human resources available, it is another thing to ensure their proper utilization and that for human resources to have relationship with academic performance of students, the human resources must be well utilized. The second hypothesis tested was on relationship between material resources and students' academic performance in public and private secondary schools. The result of this also shows that there was no significant relationship between material resources availability and students' academic performance in both public and private secondary schools. The third hypothesis is a test of significant difference in human resource availability in public and private secondary schools. The result showed that there was no significant difference in human resource available in both public and private secondary schools. The researchers commented that this is not surprising as it is a good thing to see the private schools striving hard to employ human resources as their public schools counterparts. The fourth hypothesis sought to find out the difference in

material resources available in public and private schools. The result of the test of this hypothesis showed that there was a significant difference in the availability of material resources in public and private secondary schools. According to the researchers, the high mean value displayed for private schools in the result indicated that private schools had material resources better than the public schools and thus private schools are better equipped than public secondary schools in the state. The fifth and the last hypothesis was set to find out the significant difference in the academic performance of students in public and private secondary schools. The result revealed that there was a significant difference in the academic performance of students in public and private secondary schools and that the higher mean value of private schools showed that private schools performed better than the public schools. According to the researchers this result agrees with the findings of many other researchers they have cited. It is concluded from the study that human and material resources availability does not influence students' academic performance in both public and private secondary schools. It was also concluded that there was no difference in human resource availability in both public and private secondary schools in the area of the study. The recommendations included that both human and material resources should be well utilized in these schools in order to ensure better academic performance and that government should live up to her responsibility in providing enough and current material resources to public secondary schools so as to ensure better academic performance. The study is relevant to this current research especially in the area of provision and utilization of human and material resources in secondary schools. The findings could be another point of reference to the current research for corroboration or differences.

Osagie and Okafor (2012) conducted a study on "Relationship Between Human Resources Management Variables and Students' Academic Performance in Secondary Schools in Egor Local Government Area, Edo state, Nigeria". The human resources variable employed

for the study were planning, staff supervision, staff evaluation and staff workload. Thus, the following four research hypotheses were stated and tested.

1. There is no significant difference between human resources planning and students' academic performance.
2. There is no significant difference between staff supervision and students' academic performance.
3. There is no significant difference between staff evaluation and students' academic performance.
4. There is no significant difference between staff workload and students' academic performance.

The research was a relationship study with "ex-post facto" design. According to the researchers the design was found suitable as the interactions between the dependent and independent variables have occurred before the study. The population of the study consisted of public senior secondary schools' teachers and senior secondary class three (SS3) students in Egor Local Government Area of Edo State in Nigeria. All the teachers and SS3 students in these schools constituted the target population for the study. The four hypotheses were tested using Pearson Product Moment Correlation Coefficient (r) to determine the level of relationship between the variables and academic performance of the students.

The result of the test of hypothesis one showed that there was a positive relationship between human resources management planning and students' academic performance, though the relationship was not significant. This showed that the more there is human resources planning, the better would the students' academic performance be, but the fact that there was no significant relationship indicated that much needs to be done in human resources planning sector in secondary schools in Egor local government area of Edo state. The result of the test of the second and third hypotheses equally showed a positive relationship between staff supervision and students' academic performance as well as staff evaluation and students

academic performance. According to the researchers the results implied that the more the staff were supervised and evaluated the better would be the academic performance of the students, and that staff supervision and evaluation were not well conducted in the senior secondary schools in the area of the study. The result of the test of the fourth hypothesis showed a negative relationship between staff work load and students' academic performance. The researchers asserted that this implied that the lower the workload of staff, the better the students' academic performance. The study was concluded by stating that human resources planning, staff supervision and staff evaluation had positive correlation to students' academic performance, while the staff workload had a negative correlation with students' performance. The study sought for difference between human resource planning, staff supervision, staff evaluation and staff work load and student's academic performance which are all related to human resource utilization. The study is therefore related to this current research in the area of utilization of human resources in secondary schools. The findings could serve as a reference to the findings on utilization of human resources in this current study.

Ruben and Adetutu (2009) undertook a study on "Problems of Teaching Introductory Technology Education in Secondary School: (A case study of Hong Local Government Area, Adamawa State)". Issues investigated include the availability of teaching personnel, facilities and equipment, government attitude towards Introductory Technology education and funding among others things. 100 students and 7 teachers in 7 secondary schools were used as sample for study. Questionnaire, oral interview and direct observation were used for collecting data for the study. The findings of the study revealed that Introductory Technology education is not up to the expected standard in secondary schools in the local government area (LGA) of Adamawa state. They drew the conclusion that: -

- There are no enough teachers to handle the course.
- Most of the teachers were not taking it as a burden upon them, that it is their duty to educate the young ones.

- The schools were not connected to the National Grid (NEPA) and no generators for their practical works.
- No machines and hand tools/bench device.
- No competent teachers to handle the practical aspect of the course, because some of the teachers do not know how to start the machines, not to talk of how to operate and manipulate the machines to do practical works.
- The teachers were not using instructional materials during their lessons.

The study is related to this current research in that it investigated availability of teaching personnel, facilities and equipment which are part of resources investigated by this current research. The finding of the research could be a good reference point to this current research.

Alaka, 2013 carried out a study on fund allocation and utilization in secondary schools in Nigeria titled "Fund Allocation and Utilization as Correlates of Students' Achievement in Public Secondary Schools in Nigeria". The study was designed to examine the relationship between fund allocation and utilization as correlates of students' achievement in public secondary schools in Nigeria from 2001 – 2005. The following two hypotheses were stated to guide the study.

1. There is no significant relationship between fund allocation and students' achievement in public secondary schools in Nigeria.
2. There is no significant relationship between utilization of financial resource and students' achievement in public secondary schools in Nigeria.

The study adopted a descriptive survey design and was carried out as ex-post facto. The geographical area of the study was the six zones of Nigeria. According to the researcher, the target population comprised the 6,700 public secondary schools in Nigeria. The sampling technique adopted in the study was multi-staged. A total of 1,826 public secondary schools from Lagos, Enugu, Akwa-Ibom, Kano, Bauchi and Nassarawa states representing each of the

six zones and made up of 145 local governments in Nigeria were sampled for the study. The results of 1,413,454 students in Senior Secondary Certificate Examination (SSCE) conducted by West African Examinations Council (WAEC) from 2001 – 2005 were collected for the study. Pearson Product Moment Correlation was used to test the hypotheses formulated at 0.05 level of significance. The result of the first hypothesis indicated that there was significant relationship between fund allocation and students' achievement. Therefore, the null hypothesis which states that there is no significant relationship between fund allocation and students' achievement was thereby rejected. The result of the second hypothesis also showed that there was significant relationship between utilization of financial resource and students' achievement. The second hypothesis which states that there is no significant relationship between utilization of financial resource and students' achievement was also rejected. The researcher concluded by stating that it is clear that the challenges besieging all levels of education in Nigeria with regards to dearth of instructional staff, decayed facilities, high student/teacher ratio, dilapidated infrastructure, incessant strike actions ad indefinite closure of schools are attributed to under-funding of the system by the federal and state governments. It then recommended that government should therefore allocate more funds to secondary education so that all facilities necessary to improve the students' achievement are made available and that there should be effective monitoring of available funds in order to prevent embezzlement, misuse and diversion of such funds.

The study dealt with allocation and utilization of fund in secondary schools and is therefore related to this current study which is also looking at availability and utilization of resources (including financial resources) for teaching and learning in secondary schools in North–Central Zone of Nigeria. The findings would also be a good reference point to the findings and discussion of this current study.

Usaini and Abubakar, (2015) conducted a study on "The Influence of School Environment on Academic Performance of Secondary School Students in Kuala Terengganu,

Malaysia". The aim of the study was to examine how school facilities, teachers and environment influence students' academic performance in secondary schools in Kuala-Terengganu of Malaysia. Three objectives were set for the study and the following research hypotheses were raised and tested: -

i. School environment does not influence students' academic performance.

ii. Teachers have no any influence on students' academic performance.

iii. School climate does not influence students' academic performance.

Descriptive survey research design was adopted for the study, and the population consisted of 26,569 secondary school students from 32 secondary schools within Kuala Terengganu of Malaysia 377 respondents were selected through a stratified random sampling procedure from four different secondary schools to form the sample size. Questionnaire was used as an instrument for data collection. Mean and standard deviation statistics were used to analyse the data collected.

The findings revealed that school environment plays a significant role on students' academic performance and that in schools with adequate modern equipment, effective learning was better enhanced. Therefore, the result of the data proved that in schools enriched with modern equipment such as computer, internet, enriched laboratory and library, learning was made easier and faster.

The findings of study also revealed further that teachers have great influence in the academic performance of students in secondary schools. It could be deduced from the study that schools enriched with intelligent teachers, favourable learning atmosphere, and excellent teacher-students relationship facilitated learning development, which resulted in high academic performance.

The result also agreed with the opinions of many other researchers already cited in the literature review (They cited the opinions of most psychologists which said that weak relationship between teachers and students has a diverse effect on students' attitude in respect

of events in teaching –learning environment). The researcher concluded that the research indicated that school environment significantly influences students' academic performance in secondary schools. Recommendations were made which included that teachers should understand and appreciate the diverse domestic environment of their students and that parents should get involved actively with the school about their children education to enable them understand the progress or otherwise of their children. The result of the study is however related to this study in that the components of the school environment studied are also part of material resources in the secondary school system which this current study is about. The result of the study can be another reference point to this current research.

Pitan, (2012) studied the "Analysis of Internal Efficiency in the Utilization of Human Resources in Selected Secondary Schools of Oyo State, Nigeria". The study focused on human resource utilization which was measured in terms of students – teacher ratio, teachers' quality and teachers' workload. The following four null hypotheses were stated and tested in the study:-

i. There is no significant relationship between students – teacher ratio and wastage ratio in Ibadan North Local Government secondary school system.
ii. There is no significant relationship between teachers' quality and wastage ratio in Ibadan North Local Government secondary school system.
iii. There is no significant relationship between teachers' workload and wastage ratio in Ibadan North Local Government secondary school system.
iv. There is no significant relationship between resource utilization and internal efficiency in Ibadan North Local Government secondary school system.

The study adopted the descriptive survey research method. Out of 22 secondary schools in the local government area, 8 were selected as samples for the study, using purposive sampling technique. For the collection of data, an instrument titled "Resource Utilization and Secondary Education Efficiency Question (RUSEQ)" was developed by the researcher for the

principals or vice-principals of the selected secondary schools. Data collected were analysed using simple percentages and Pearson Product Moment Correlation. Internal efficiency was measured as the inverse of wastage ratio. In presenting the results, the responses of the questionnaire items were carefully analysed and presented under the following headings:-

- Numerical strength of the teachers in the sampled schools.
- Quality of teachers in the selected schools.
- The performance of students in Senior Secondary Certificate Examination (SSCE).
- Hypotheses testing.

The results were stated as follow:

i. The number of teachers supplied (488) were below the number needed (601). 82.8 percent of the required teachers were supplied. This means that there was a shortage of 17.2 percent.

ii. In the analysis of the qualifications of teachers in the sampled schools, the result showed that the graduate teachers with teaching qualification (B.Ed.) had the highest population of 45.29%, followed by NCE with 43.9% and graduates without teaching qualification (B.Sc/B.A.) 8.40% and HND holders 2.46%.

iii. In terms of performance of students in senior secondary certificate examinations, the result revealed that 19.3% of the total students had 5 credits and above. 56.1% had less than 5 credits and 24.6% had no credit at all.

iv(a) Testing hypothesis 1: The result showed that there was a coefficient of 0.7959 between students-teacher ratio and wastage ratio.

The coefficient was significant at $P<0.05$. This means that there was a significant positive relationship between the two factors. In other words, as there were more students to a teacher, there tends to be high wastage ratio.

(b) Hypothesis 2 was on relationship between teachers' quality and wastage ratio of Oyo state secondary school system. A correlation coefficient of – 0.1212 was obtained

between the teachers' quality and wastage ratio. This correlation coefficient was not significant at $P<0.05$. Therefore, the null hypothesis which stated there is no significant relationship between teachers' quality and wastage ratio was accepted.

(c) Hypothesis 3 was on teachers' workload and wastage ratio. The result showed that there was a negative relationship between teachers' workload and wastage ratio in Ibadan North Local Government secondary schools system. Thus, the hypothesis which stated that there is no significant relationship between teachers' workload and wastage ratio in the area of the study was then accepted.

(d) Hypothesis 4 was to test the relationship between resource utilization and internal efficiency in Ibadan North Local Government secondary schools. The result revealed that there was a correlation coefficient of 0.8367 between resource utilization and internal efficiency. The relationship between the two factors was significant and positive. This means that as resources are well utilized, the internal efficiency is expected to be high.

The researcher did not lay down the conclusion in relation to the hypotheses, but discussed the result in the following manner:-

The first part of the results showed that the number of teachers supplied were below the number needed and that not all of them were actually qualified to teach in secondary schools. This had effect on the result where only 19.3% of the students graduating had five credits and above. This means that only 19.3% were qualified to gain admission to the university assuming that the subjects where they had credits included English Language and Mathematics. In essence, it showed that where there are low quantity and quality of inputs (human resource), the result and the outputs would be unsatisfactory. The study therefore proved the effect of inadequate provision of human resources in a secondary school system. This result is related to this current research.

The result demonstrated that a significant positive relationship existed between Students – Teacher Ratio (STR) and wastage ratio. This means that as there were more students to a teacher, the wastage ratio increased. The secondary school system becomes more inefficient as the Students – Teacher Ratio (STR) increases. In the sampled schools, since the number of teachers was not adequate, the gap between the demand and supply of teachers was likely to result in over-utilization of the available teachers and this could reduce the quality of their job performance and consequently the quality of the students' turned out.

According to the researcher, the lack of relationship between qualification of teachers and wastage rate indicates that increase in teacher quality did not significantly influence wastage rate. This suggests that there are other likely extraneous factors that make up for teacher quality which were not taken into consideration in the analysis such as teaching experience, exposure to seminars and workshops, motivation in terms of enhanced salaries, allowances, regular promotion, etc.

Similarly, the lack of significant relationship between teacher workload and wastage ratio indicates that certain aspects of teachers' activities were not considered in the definition of the teacher workload and therefore need to be re-visited. There should be an inclusion of all the work the teachers do, (which include time spent on note preparation, advising/counseling of students, being a member of one committee or the other, marking of assignments, tests and examinations) to ensure efficiency and effective teaching.

As regards the internal efficiency of the school system, by using the input – output analysis of the sampled schools, a positive significant relationship was found to exist between human resource utilization and internal efficiency ($r = 0.8367$; $p < 0.05$) of the school system. This suggests that as more human resources are available and are adequately utilized, the more the secondary schools system becomes more efficient. The researcher concluded that it has been established from the study that as the available human resources were utilized, there was an increase in the level of internal efficiency of the school system and that human resource

utilization is an important indicator of internal efficiency, and in any system therefore, the available human resources must be well channeled and utilized. Recommendations of the study included that the state governments should bridge the gap between required and available human resources in order to avoid over utilization of the available ones and that professional competence of the teaching force could be enhanced through seminars, workshops, in-service training and conferences.

The result discussed is related to this current study in some ways. The first part of the results showed that the number of teachers supplied was below the number needed and that not all of them were actually qualified. This has affected the students – teacher ratio as well as the result where only 19.3% of the graduating students had five credits and above. This means that only 19.3% were qualified to go to the universities, and other tertiary institutions, assuming that the subjects in which they had credits included English language and Mathematics. In essence the result showed that where there are low quantity and quality of inputs (human resources in this case), the result and the outputs would be unsatisfactory. The study revealed the effect of inadequate provision of resources for teaching and learning.

The result of the last hypothesis tested proved that there was a positive relationship between human resource utilization and internal efficiency of the school system. Thus, this suggests that when available resources are well-utilized, the secondary schools system becomes more efficient. Adequate provision and effective utilization of resources can bring about efficiency and greater achievement in the secondary school system. This is actually related to this current research.

Yara and Otieno (2010) conducted a study titled, "Teaching/Learning Resources and Academic Performance in Mathematics in Secondary Schools in Bondo District of Kenya". Three research questions were raised to guide the study.

i. What is the composite effect of teaching/learning resources on academic performance in Mathematics?

ii. What are the relative effects of teaching/learning resources on academic performance in Mathematics?

iii. Which of the teaching/learning resources will predict academic performance in Mathematics?

The research design for the study was descriptive survey design. A total of 405 senior secondary four students formed the population for the study. The form four students were selected for having chosen their optional subjects and for having sat for their Mock Examination by the end of term two. 242 students were randomly selected as samples from the schools in the three divisions that made up the district. The instrument for data collection was 'Students Questionnaire on Performance', (SQP). The respondents were asked to respond to the questionnaire items drawn on a four point rating scale of strongly agree, agree, disagree and strongly disagree. The results of the findings were presented according to how the research questions were stated. Research question one was on the composite effect of teaching/learning resources on academic performance in Mathematics.

According to the researchers the findings showed that there was positive multiple correlation among the independent and dependent variables. The variables were parent/guardian, financial support, government financial support, lack of trained teachers, classroom/laboratories, stationeries/teaching aids, textbook/student-ratio, students' attitude and personal extra time and academic performance in Mathematics. This implies that the factors were relevant towards the determination of the dependent measure.

Research question two was on the relative effect of teaching/learning resources on academic performance in Mathematics. The findings showed that out of the eight factors, classroom and laboratories made the greatest contribution. This implies that the provision of classrooms and laboratories had the highest positive effect on the academic performance of students, followed closely by stationaries and teaching aids. Lack of trained teachers also contributed to the academic performance of students. This aspect showed that lack of trained

teachers affected the academic performance of students. The fourth in rank of contribution is government financial support. The fifth and sixth contributions in order of decreasing magnitude were textbooks/student-ratio and parents/guardian financial support. Personal extra time and students' attitude made the seventh and eighth contributions in that order. The results showed that the last two had very little effect on the performance of students in Mathematics.

Research question three was to find out which of the teaching/learning resources would predict academic performance in Mathematics. The findings showed that government financial support, trained teachers, classroom/laboratories and textbook as well as students-ratio could be used to predict academic performance in Mathematics. The other variables like parent/guardian, financial support, personal extra time, stationaries/teaching aids and students' attitude could not be used to predict academic performance in Mathematics with respect to this study.

The conclusions of the study included that out of the eight variables investigated, only four were found to be very significant and could be used to predict academic performance in Mathematics. These were classroom/laboratories, trained teacher, textbooks, students-ratio and government financial support. The researchers recommended that the government should give more financial support to schools in order to provide the basic infrastructure like classroom, laboratories and textbooks and that government should also recruit competent and adequate trained teachers and deploy them to all schools.

Critically looking at the learning of a single subject like Mathematics, there are other important factors that were not investigated in the study such as peer group influence, teachers' teaching styles, students' interest or attitude to the subject, content of the subject, students' background in Mathematics, etc. However, the study is relevant to this current study in the area of influence of resources in the learning of Mathematics and the finding can be a good reference point to this current study.

2.9 Summary

This chapter is on the review of related literature on provision and utilization of resources in secondary schools. The review started by explaining the major concepts in the study under the 'conceptual framework'. This was followed by theoretical framework under which system theory and constructivist theory were discussed.

The review expressed the view of several researchers on the role of teaching and learning resources, teachers as human resources and funds. Most of the researchers have expressed the importance of availability of these resources in appropriate quantity and quality towards the achievement of the educational goals. There is no controversy among scholars, researchers, educational planners and administrators about the fact that educational facilities are essential ingredients in the effort to realize effective teaching-learning outcomes. Dare, (2008) cited Adaralegbe, (2002) that effective implementation of educational objectives depends, to a large extent on adequate funding, supply of sufficient qualified teachers and other essential educational resources. These are human, financial and material resources.

The level of availability and the problems created by the inadequacies of the resources in some of the secondary schools in the country have been exposed through several researches already conducted. Several calls have been made for adequate supply of these resources, if our education system is to play its roles towards national development and other visionary programmes the nation is embarking upon. Some empirical studies related to the topic were reviewed. Most of them highlighted the inadequacies in some of the resources and the effects of the inadequacies were expressed.

However, this current research aims at testing the perceptions of the stakeholders on the provision and utilization of resources in secondary schools and establishing the area of the resources that are adequately/inadequately available and utilized in the area of the study. It is different in that it looks for the opinions of the stakeholders on the availability and utilization

of resources in secondary schools in the area, an issue which has not been previously established or investigated before now in the area.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the methodology and procedure used in carrying out the research was explained. The procedure was organized under the following subheadings: Area of the Study, Research Design, Population, Sample and Sampling Techniques, Instrumentation, Validation of Instrument, Pilot Study, Reliability, Administration of Instrument and Method of Data Analysis.

3.2 Research Design

Descriptive survey design was used for the study. Descriptive survey, according to Nworgu, (1991) is the type of study which aims at collecting data on, and describing in a systematic manner, the characteristic features on facts about a given population. This was considered appropriate and suitable because descriptive survey design allows a researcher to seek or elicit a wide range of opinion from respondents on factors of this type of study (Ogbazi and Okpala, 1994).

3.3 Population of the Study

The population is any group of individuals that has one or more characteristics in common that are of interest to the researcher (Best and Kahn, 2006). Nwana, (1990) opined that for the purpose of research, the term 'population' can be taken to mean all the members of the target of the study as defined by the aims and objectives of the study.

The population of the study consisted of 91,290 stakeholders in 3,179 secondary schools spread in six states and Federal Capital Territory (FCT) Abuja in the zone. These states are Benue, Kogi, Kwara, Nassarawa, Niger, Plateau and FCT Abuja. This was made up of 56,806 teachers, 15,053 non-teaching staff 3,179 principals/vice-principals, 15,895 Parents Teacher Association (PTA) officials of the schools and 357 officials of the Inspectorate Department that are responsible for the inspection of the schools. These are regarded as major

stakeholders in the evaluation of provision and utilization of resources in the secondary school system. From the above, it is clear that the study had five sets of population to seek information from as can be seen in Table 3.1.

Table 3.1: Population of the Study by States

States	No. of Schools	Teachers	Non-Teaching Staff	Principal/Vice Principal	PTA Officials	Ministry of Education Officials	Total
Benue	661	11812	3130	661	3305	74	18982
Kogi	444	7934	2102	444	2220	50	12750
Kwara	321	5736	1520	321	1605	36	9218
Nasarawa	566	10,114	2680	566	2830	63	16253
Niger	489	8738	2315	489	2445	55	14042
Plateau	549	9810	2600	549	2745	62	15766
FCT Abuja	149	2662	706	149	745	17	4279
Total	**3179**	**56806**	**15053**	**3179**	**15,895**	**357**	**91290**

Source: Federal Ministry of Education (2011)

Table 3.1 shows the population of the study according to the status in the North-Central Zone of Nigeria. The total population is 91,290.

3.4 Sample and Sampling Technique

Sample is any portion of a population or universe taken as representative of that population or universe, (Osuala, 2005). Best and Kahn (2006) asserted that a sample is a small proportion of a population selected for observation and analysis.

To determine the sample size for each set, statistical analysis was employed using 'Taro Yamane' formula. Uzoagulu, (1998) and Isreal (2012) revealed Yamane formula as

$$n = \frac{N}{1 + N(e)^2}$$

Where n = the sample size

N = the finite population

e = level of significance

l = unity (a constant)

The sample size for each category is as follows:-

Table 3.2: Sample Size in relation to the population

Respondents	Population	Samples	Percentage
Teachers	56,806	397	0.7
Non- Teaching Staff	15,053	390	2.6
Principals/Vice Principals	3,179	356	11.2
P.T.A Officials	15,895	391	2.46
Ministry of Education Officials	357	189	52.9
Total	**91,290**	**1,723**	**1.9**

Table 3.2 shows the sample size of each group of the respondents based upon "Taro Yamane" formula, (see Appendix II). Total sample is 1,723.Since there are six states and the Federal Capital Territory, samples would be selected from each unit through cluster procedure.

Table 3.3:Samples from Each State and FCT

State	Population of Schools	Sample of Teachers	Sample of Non-Academic Staff	Sample of Principals/Vice Principals	Sample of PTA Officials	Sample of Ministry of Education Officials
Benue	661	83	82	75	83	40
Kogi	444	56	55	50	55	27
Kwara	321	41	40	36	40	20
Nasarawa	566	71	70	64	70	34
Niger	489	62	60	55	61	29
Plateau	549	69	68	62	68	33
FCT	149	19	19	17	19	9
Total	**3179**	**401**	**394**	**359**	**396**	**192**

Grand Total = 1742

Table 3.3 shows the sample size of each group from each state and FCT. This has been worked out according to the proportion of the number of schools in each state and the FCT.

3.5 Instrumentation

The instrument for data collection was a self developed questionnaire to elicit responses from the respondents i.e. the teachers, non-academic staff, principals/vice principals, PTA officials and Ministry of Education officials. The questionnaire was titled "Questionnaire

on Stakeholders' Perceptions on Provision and Utilization of Resources in Secondary Schools in North-Central Zone of Nigeria". The questionnaire was designed based on the objectives, research questions and the hypotheses of the study. The questionnaire consisted of 46 items. It was divided into five sections (A-E). Section A was on personal data. It had six items (1-6). The items in this section included status of the respondents, gender, qualifications, working experience, location of the school, whether it is in urban or rural area and ownership of the school, whether it is public or private. Section B was on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria. It had ten items. Section C was on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria. It had ten items. Section D was on provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria. It had ten items. Section E was on provision and utilization of time resources in secondary schools in North-Central Zone of Nigeria, it had ten items. Sections B-E were drawn in a Likert type of five points rating scale format with options of Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD) (McLeod, 2008). Respondents were to respond, by putting a tick (√) in any of the five alternative columns drawn in front of the items. Each of the responses had value as itemized below: -

Strongly Agree	5
Agree	4
Undecided	3
Disagree	2
Strongly Disagree	1

3.5.1 Validity of the Instrument

Validity of a research study is a demonstration that a particular instrument measures what it purports to measure (Cohen, Manion and Morrison, 2007). The instrument was given to the project supervisors and three other experts in the Faculty of Education, Ahmadu Bello University, Zaria for face and content validity of the instrument. Face validity is the degree to

which an instrument is subjectively viewed as covering the concept it purports to measure, while content validity pertains to the degree to which the instrument assesses or measures the construct of the interest (Drost 2011). Their inputs and observations were incorporated in the final draft of the instrument.

3.5.2 Pilot Test

A pilot study was conducted to ascertain the reliability of the instrument. Best and Kahn, (2006) asserted that reliability is the degree of consistency that the instrument or procedure demonstrates. This was done in ten secondary schools in Kaduna state of Nigeria on 110 respondents (30 teachers and 25 non-teaching staff, 20 principals and vice principals, 25 PTA officials and 10 Ministry of Education officials).

3.5.3 Reliability of the Instrument

To determine the reliability of the instrument, the pilot test conducted was tested using Cronbach Alpha (α), (see Appendix III). The choice of this method was based on the fact that coefficient alpha could be used universally without regards to the nature of the scoring method adopted in the instrument, (Frisbie, 1992), while Cohen, Manion and Morrison, (2007) asserted that it is useful for multi-item scales. Another reason for the choice of the method is that it requires single administration to establish the internal consistency estimate of the items (reliability coefficient) for multi-item scales. The reliability coefficient is 0.87, which is regarded as highly reliable, (Cohen, Manion and Morrison, 2007). Stevens, (1986) asserted that an instrument is reliable if the reliability coefficient is between 0.5 and 1. The closer it is to 1 the more it is reliable.

3.6 Administration of Instrument

The instrument was administered by the researcher with the help of seven research assistants. The researcher employed the services of seven research assistants who were given instructions on the purpose of the research and the content of the instrument. The researcher along with the research assistants went to the six states and the FCT and the schools concerned

to administer the questionnaires. Where the questionnaires could not be collected on the spot a period of three days was given before collection. The total of 1,742 copies of the questionnaire were administered to the stakeholders.

3.7 Method of Data Analysis

The research questions were answered using mean, Standard Deviation (SD), and Standard Error (SE) statistics as well as item frequencies as opinions of the stakeholders in the secondary schools.

For decision rule on research questions one to four, the following real limits of numbers on the rating of responses were used.

Table 3.4: Decision Rule Schedule

Response	Mode	Rating	Real Limits	Decision
Strongly Agree	(SA)	5	4.5 – 5.0	Agree
Agree	(A)	4	3.5 – 4.49	Agree
Undecided For	(UD)	3	2.5 – 3.49	Undecided
Disagree	(D)	2	1.5 – 2.49	Disagree
Strongly Disagree	(SD)	1	0.5 – 1.49	Disagree

Table 7 shows the decision rule schedule of the responses.

Any item having a mean value of 3.5 and above was judged as having high value. This means that the items would have fallen well into Strongly Agree or Agree in the response mode. While any item having a mean below 2.5 was judged as having low mean value, falling into Disagree or Strongly Disagree. Items having mean of 2.5 – 3.49 was regarded as midway and it was undecided.

The hypotheses were tested using one-way Analysis of Variance (ANOVA). This is because one-way ANOVA is considered as an effective way of determining significant difference of the means of more than two samples, (Best and Kahn, 2006). Since the samples in the four hypotheses were of five groups, the Analysis of Variance (ANOVA) was therefore considered appropriate. All research hypotheses were tested at 0.05 level of significance.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

In this chapter, the data analysis is presented. The analysis is presented in three sections. The first section is descriptive analysis of the demographic data of the various stakeholders. In the second section, the research questions were answered using means statistics, frequencies and standard deviation. In the third section, the test and interpretation of the null research hypotheses was presented using inferential comparative statistical technique of the Analysis of Variance (ANOVA). In testing the hypotheses decisions to accept or reject, the null hypotheses were taken at 0.05 confidence levels. The summary of major findings was done and the last part of the chapter is the discussion of findings.

4.2 Analysis of Demographic Variables

Table 4.1: Rate of Return (RR)

Stakeholders	No. Distributed	No. Retrieved	No. Missing	% Retrieved
Teachers	401	384	17	96
Principal/Vice Principal	359	348	11	98
Officials of M.O.E.	192	187	5	98
Officials of P.T.A.	396	375	21	94.7
Non-Academic Staff	394	375	19	96
Total	**1742**	**1669**	**73**	**95.8**

Table 4.1 shows that 1742 copies of questionnaire were distributed and 1669 were retrieved which is 95.8% of the total number of questionnaires distributed.

Table 4.2: Status of the Respondents

Status	Frequency	Percentage
Teacher	384	23.0
Principal/vice principal	348	20.9
Officials of MOE	187	11.2
Officials of PTA	375	22.46
Non Academic staff	375	22.46
Total	**1669**	**100**

Table 4.2 shows the status of the respondents. The respondents consisted of 1669 stakeholders. 384 which is 23.0% were teachers who formed the largest group and 348 which represents 20.9% were principals/vice-principals. Officials of the Ministries of Education (MOE) were 187 that is 11.2%. Officials of the Parent-Teachers' Association (PTA) were 375, (22.5%) while the non-academic staff of the secondary schools were also 375 which is 22.5% as well.

4.3 Responses to Research Questions

The responses to the questionnaire items are presented in the tables below based on the research questions.

4.3.1 Stakeholders' Perceptions on the Provision and Utilization of Human Resources in Secondary Schools in North-Central Zone of Nigeria.

Table 4.3: Provision and Utilization of Human Resources in Secondary Schools in North-Central Zone of Nigeria

		Response Categories							
S/N	**Item Statement**	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly Disagree**	**Mean**	**Decision**	**Std**
1	There is adequate provision of human resources for Science subjects in secondary schools in North-Central Zone of Nigeria.	108	417	140	788	216	2.6483	Un-decided	1.1728
2	There is effective utilization of human resources for Science subjects in secondary schools in North-Central Zone of Nigeria.	569	829	111	140	20	4.0707	Agree	.91996
3	There is adequate provision of human resources for Art subjects in secondary schools in North-Central Zone of Nigeria.	79	1260	102	173	55	3.6800	Agree	.84718
4	Human resources provided for Art subjects are effectively utilized in secondary schools in North-Central Zone of Nigeria.	237	1196	102	99	35	3.8993	Agree	.78699
5	There is adequate provision of human resources for Languages in secondary schools in North-Central Zone of Nigeria.	66	1009	291	242	61	3.4655	Un-decided	.91525
6	There is effective utilization of human resources for Languages in secondary schools in North-Central Zone of Nigeria.	203	1119	118	194	35	3.7555	Agree	.88698
7	Human resources are adequately provided for Mathematics in secondary schools in North-Central Zone of Nigeria.	125	741	260	460	83	3.2187	Un-decided	1.08211
8	There is effective utilization of human resources for Mathematics in secondary schools in North-Central Zone of Nigeria.	299	952	207	174	37	3.7801	Agree	.93375
9	There is adequate provision of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria.	38	219	92	751	569	2.0449	Disagree	1.06041
10	There is effective utilization of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	566	499	150	339	115	3.6363	Agree	1.31543

Table 4.3 shows the analysis of the responses of the stakeholders over the provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria. The table contains responses to items 1 – 10. Item 1 of the questionnaire sought to find out the opinions of the respondents on provision of adequate human resources for science subjects in secondary schools in North-Central Zone of Nigeria. 1004 of the respondents disagreed with

the item while only 525 agreed. The mean response was 2.65 which was within the midpoint of 3. This showed undecided. This indicated that human resources could not be said to be adequate for science subjects in secondary schools in North-Central Zone of Nigeria. Item 2 was on effective utilization of human resources for science subjects in secondary schools in North-Central Zone of Nigeria. 1396 of the respondents agreed to this item. The mean response was 4.07. This shows that the stakeholders agreed that the human resources were effectively utilized for Science subjects in secondary schools in North-Central Zone of Nigeria.

Item 3 of the questionnaire sought for the opinions of the respondents on adequacy of provision of human resources for Art subjects in secondary schools in North-Central Zone of Nigeria. 1339 of the respondents agreed to the item and the mean response was 3.68, which was agreed. This showed that the respondents agreed that there was adequate provision of human resources for Art subjects in secondary schools in North-Central Zone of Nigeria. So also item 4 was agreed to by the 1433 out of 1669 respondents. On the issue of effective utilization of human resources for Art subjects in secondary schools in North-Central Zone of Nigeria with the mean response of 3.89, it indicated that there was effective utilization of the human resources for Art subjects in secondary schools in North-Central Zone of Nigeria.

Item 5 was on adequate provision of human resources for languages in secondary schools in North-Central Zone of Nigeria. 1075 of the respondents agreed but the mean response of 3.46 fell within the range of undecided. It showed that the provision of human resources for languages in secondary schools in North-Central Zone of Nigeria could not be said to be adequate. The next item on the questionnaire which is item 6 sought to know the opinion of the stakeholders on effective utilization of human resources for languages in secondary schools in North-Central Zone of Nigeria. The respondents agreed to this item with mean response of 3.76, which showed that the human resources available were properly utilized for Languages in secondary schools in North-Central Zone of Nigeria.

Item 7 was on whether human resources were adequately provided for Mathematics in secondary schools in North-Central Zone of Nigeria. The mean response was 3.22 which is within the range of undecided. This showed that while 866 agreed to the suggestion in the item 720 disagreed over the issue. Item 8 was to find out whether there was effective utilization of human resources for Mathematics in secondary schools in North-Central Zone of Nigeria. The respondents agreed to this item with mean response of 3.78. This showed that the available human resources were well utilized for Mathematics.

With item 9 the researcher sought to know the level of adequacy in the provision of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. The mean response was 2.04 which was disagreed. This means that there were no adequate provision of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. Item 10 sought to know whether there was effective utilization of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. The respondents agreed to this item with mean response of 3.64. This showed that there was effective utilization of human resources for vocational and technical subjects in secondary schools in North Central Zone of Nigeria.

In general for this section, stakeholders disagreed to the adequate provision of human resources for Vocational and Technical subjects, while they agreed to the adequate provision of human resources for only the Art subjects in secondary schools in North-Central Zone of Nigeria. On the other hand, the respondents agreed to the effective utilization of human resources for teaching and learning of the five subject areas in secondary schools in North-Central Zones of Nigeria. This showed that even where there was no adequate provision of human resources, the ones available were effectively utilized.

4.3.2 Stakeholders' Opinions on the Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria

Table 4.4: Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria

S/N	Item Statement	Response categories					Mean	Decision	Std
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree			
1	There is adequate provision of material resources for Science Subjects in secondary schools in North-Central Zone of Nigeria	93	601	112	659	204	2.8322	Un-decided	1.19978
2	Material resources provided for Science subjects are effectively utilized in secondary school in North-Central Zone of Nigeria	493	841	58	217	60	3.8928	Agree	1.07840
3	Material resources are adequately provided for Art subjects in secondary school in North-Central Zone of Nigeria	139	1083	128	239	80	3.5764	Agree	.99263
4	There is effective utilization of material resources for Art subjects in secondary schools in North-Central Zone of Nigeria	264	1030	92	217	66	3.7244	Agree	1.00064
5	There is adequate provision of material resources for Languages in secondary schools in North-Central Zone of Nigeria	127	999	222	255	66	3.5189	Agree	.97223
6	Material resources provided for Languages are effectively utilized in secondary schools in North-Central Zone of Nigeria	303	987	101	210	68	3.7472	Agree	1.02408
7	There is adequate provision of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria	240	847	244	311	27	3.5764	Agree	1.00105
8	There is effective utilization of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria	338	953	68	217	93	3.7346	Agree	1.09320
9	Material resources are adequately provided for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	85	168	89	716	611	2.0413	Disagree	1.13113
10	There is effective utilization of material resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	634	434	67	412	122	3.6267	Agree	1.38821

Table 4.4 shows the analysis of the responses of the stakeholders on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria. The table contains the responses of the stakeholders on items 1 – 10.

Item 1 was on adequate provision of material resources for Science subjects in secondary schools in North-Central Zone of Nigeria. Although 863 out of 1669 which was 51.7% disagree to this item, the mean score of the item was 2.83 which was undecided. Item 2 sought to find out whether the material resources provided for Science subjects were

effectively utilized in secondary schools in North-Central Zone of Nigeria. 1334 of the respondents agreed to this item and the mean response to the item was 3.89 which was agreed.

The following item which was item 3 was to find out if the material resources were adequately provided for Art subjects in secondary schools in North-Central Zone of Nigeria. Their mean response to this was 3.57 which was agree. This showed that the respondents agreed that there was adequate provision of material resources for Art subjects in secondary schools in North-Central Zone of Nigeria. Item 4 was to find out whether there was effective utilization of material resources for Art subjects in secondary schools in North-Central Zone of Nigeria. 1294 out of 1669 respondents which was 77% agreed to the item. The mean response of the item was 3.72. It showed that the respondents agreed that there was effective utilization of material resources for Art subjects in secondary schools in North-Central Zone of Nigeria.

Item 5 sought to find out the level of adequate provision of material resources for languages in secondary schools in North-Central Zone of Nigeria. The mean response of the stakeholders to this item was 3.51 which was agree. This showed that material resources for languages in secondary schools in North-Central Zone of Nigeria were adequately provided. Item 6 sought to find out whether the material resources provided for languages were effectively utilized in secondary schools in North-Central Zone of Nigeria. The mean response to this item was 3.74 which was agreed. This showed that the material resources provided for Languages in secondary schools in the zone were effectively utilized.

Item 7 was on adequate provision of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria. The mean response to this item was 3.57 which was agreed. It showed that by the opinions of the stakeholders there was adequate provision of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria. The following item, which was item 8 was on whether there was effective utilization of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria.

The mean result of the item was 3.73, which was agreed. This indicated that the stakeholders agreed to the statement of the item.

Item 9 sought to know the opinions of the stakeholders on whether the material resources were adequately provided for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. 1327 of the respondents which was 79.5%, disagreed to the statement. The mean response to the item was 2.04 which was disagreed. This means that the respondents asserted that material resources were not adequately provided for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. Item 10 was designed to find out if there was effective utilization of material resources for Vocational and Technical subjects. The mean response to the statement in the item was 3.63, which was agreed. The respondents expressed opinion that material resources provided for Vocational and Technical subjects were being effectively utilized.

In the table which is on provision and utilization of material resources, the stakeholders agreed to eight of the ten items. They were undecided on one item, while they disagreed to one item which was on adequate provision of material resources for Vocational and Technical subjects.

4.3.3 Stakeholders' Perceptions on the Provision and Utilization of Financial Resources in Secondary Schools in North-Central Zone of Nigeria

Table 4.5: Provision and Utilization of Financial Resources in Secondary Schools in North-Central Zone of Nigeria

		Response Categories							
S/No	Item Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Mean	Decision	Std
1	There is adequate provision of financial resources for Science Subjects in secondary schools in North-Central Zone of Nigeria.	112	253	225	806	273	2.4757	Disagree	1.13275
2	There is effective utilization of financial resources for Science subjects in secondary schools in North-Central Zone of Nigeria.	516	78	257	213	605	2.8125	Un-decided	1.15643
3	Financial resources is adequately provided for Art subjects in secondary schools in North-Central Zone of Nigeria	65	624	235	532	213	2.8778	Un-decided	1.15964
4	There is effective utilization of financial resources for Art subjects in secondary schools in North-Central Zone of Nigeria.	413	865	126	198	67	3.8143	Agree	1.06064
5	There is adequate provision of financial resources for Languages in secondary schools in North-Central Zone of Nigeria.	76	565	386	419	223	2.9113	Un-decided	1.13977
6	Financial resources provided for Languages are effectively utilized in secondary schools in North-Central Zone of Nigeria.	146	261	394	822	46	2.7837	Un-decided	1.06624
7	Financial resources is adequately provided for Mathematics in secondary schools in North-Central Zone of Nigeria.	399	425	109	546	190	3.1780	Un-decided	1.12712
8	There is effective utilization of financial resources for Mathematics in secondary schools in North-Central Zone of Nigeria.	394	201	740	249	85	3.3415	Un-decided	1.14010
9	Financial resources is adequately provided for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria.	43	176	127	829	494	2.0683	Disagree	1.01080
10	There is effective utilization of financial resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	559	466	117	419	108	3.5686	Agree	1.34410

Table 4.5 shows the analysis of the stakeholders responses on the provision and utilization of financial resources for secondary schools in North-Central Zone of Nigeria. The table contains responses to items 1 – 10.

Item 1 solicited for the opinions of the stakeholders on adequacy of financial resources for science subjects in secondary schools in North-Central Zone of Nigeria. The mean response to the item was 2.48 which was disagreed. This showed that by their opinions there was no adequate provision of financial resources for Science subjects in secondary schools in North-Central Zone of Nigeria. Item 2 was on effective utilization of financial resources for Science subjects in secondary schools in North-Central Zone of Nigeria. The respondents were undecided over this with mean response of 2.81 which fell within the range of undecided. It showed that the use of the financial resources was not effective.

The next item which was item 3 sought to know if the financial resources was adequately provided for Art subjects in secondary schools in North-Central Zone of Nigeria. The mean response was also 2.87 which was undecided. Item 4 was on effective utilization of financial resources for Art subjects in secondary schools in North-Central Zone of Nigeria. The mean response to this was 3.8 which was agreed. It showed that whatever was provided in terms of financial resources for Art subjects was effectively utilized. With item 5 the researcher sought to know the opinions of the stakeholders on adequate provision of financial resources for Languages in secondary schools in North-Central Zone of Nigeria. With the mean response of 2.91, their opinion was undecided. This showed that the adequate provision of financial resources for Languages in secondary schools was not adequate. In item 6 which was on whether the financial resources provided for Languages was effectively utilized in secondary schools in North-Central Zone of Nigeria. Though 822 of the respondents disagreed to this, their mean response was 2.78 which fell into undecided. This showed that the financial resources provided for Languages was not well utilized. Item 7 was on whether financial resource was adequately provided for Mathematics in secondary schools in North-Central

Zone of Nigeria. 824 of the respondents agreed while 736 disagreed to the item. Their mean response to it was 3.17 which was undecided. This shows that there was no adequate provision of financial resources for Mathematics in secondary schools in North-Central Zone of Nigeria. Item 8 sought to find out whether there is effective utilization of financial resources for Mathematics in secondary schools in North-Central Zone of Nigeria. The opinion of respondents was 3.3 which was undecided as well. This showed that there was no effective utilization of financial resources for Mathematics.

On item 9 the researcher sought to find out whether the financial resources was adequately provided for Vocational and Technical subjects in secondary school in North-Central Zone of Nigeria. 1323 of the stakeholders disagreed to this and the mean response was 2.06, which was disagreed. This indicated that the financial resources for Vocational and Technical subjects was quite inadequate in secondary schools in the zone. On the other hand, item 10 sought to find out whether there was effective utilization of financial resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. The response of the stakeholders was positive. With the mean response of 3.56, they expressed that the amount of financial resources provided for Vocational and Technical subjects was effectively utilized.

For this table, the respondents agreed to items 4 and 10 which were on effective utilization of financial resources for Art subjects and Vocational and Technical subjects respectively. They disagreed on items 1 and 9 which were on adequate provision of financial resources for Science and Vocational and Technical subjects. They were undecided on the remaining six items.

4.3.4 Stakeholders' Perceptions on the Provision and Utilization of Time as a Resource in Secondary Schools in North-Central Zone of Nigeria

Table 4.6: Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria

S/N	Item Statement	Response category					Mean	Decision	Std
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree			
1	There is adequate provision of time for Science subjects in secondary schools in North-Central Zone of Nigeria.	171	1128	133	182	55	3.7058	Agree	.91042
2	Time allocated for Science subjects is effectively utilized in secondary schools in North-Central Zone of Nigeria.	447	882	142	136	62	3.9083	Agree	1.00269
3	There is adequate provision of time for Art subjects in secondary schools in North-Central Zone of Nigeria.	176	1207	103	108	75	3.7795	Agree	.88447
4	There is effective utilization of time allocated for Art subjects in secondary schools in North-Central Zone of Nigeria.	512	867	106	101	83	3.9730	Agree	1.02948
5	Time allocated for Languages is adequate in secondary schools in North-Central Zone of Nigeria.	198	971	177	241	82	3.5764	Agree	1.03230
6	There is effective utilization of time allocated for Languages in secondary schools in North-Central Zone of Nigeria.	525	769	170	143	62	3.9299	Agree	1.04365
7	There is adequate provision of time for Mathematics in secondary schools in North-Central Zone of Nigeria.	213	892	219	255	90	3.5291	Agree	1.06499
8	There is effective utilization of time allocated for Mathematics in secondary schools in North-Central Zone of Nigeria.	439	830	182	135	83	3.8430	Agree	1.05794
9	Time allocated for Vocational and Technical subjects is quite adequate in secondary schools in North-Central Zone of Nigeria.	117	721	244	391	196	3.1031	Un-decided	1.18602
10	There is effective utilization of time allocated for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria.	544	531	142	335	117	3.6291	Agree	1.30702

Table 4.6 is on provision and utilization of time in secondary schools in North-Central Zone of Nigeria. It contains the responses of the stakeholders on items 1 – 10.

The first item in the table sought to know if there was adequate provision of time for Science subjects in secondary schools in North-Central Zone of Nigeria. The mean response of the respondents was 3.7, which was agree. This showed that the respondents were of the

opinion that there was adequate provision of time for Science subjects in secondary schools in North-Central Zone of Nigeria. Item 2 was to find out whether the time allocated for science subjects was effectively utilized in secondary schools in North-Central Zone of Nigeria. 1329 which was 80% of the respondents agreed to the statement of the item. The mean response to the item was 3.9 which was agreed. It shows that the respondents were of the opinion that the time allocated to Science subjects in secondary schools was effectively utilized.

Item 3 was on adequate provision of time for Art subjects in secondary schools in North-Central Zone of Nigeria. The mean response of the stakeholders was 3.78 which was agreed. This showed that by the opinions of the stakeholders there was adequate provision of time for Art subjects in secondary schools in North-Central Zone of Nigeria. The following item which was item 4 sought to find out whether there was effective utilization of time for Art subjects in secondary schools in North-Central Zone of Nigeria. 1379 which was 83% of the respondents agreed to this as the mean response of the item was 3.97. This confirmed their opinion that there was effective utilization of time allocated for Art subjects in secondary schools in North-Central Zone of Nigeria.

Item 5 desired to get the opinions of the respondents if time resources allocated for languages was adequate in secondary schools in North-Central Zone of Nigeria. The opinions of the stakeholders to this item was positive as their mean response to the item was 3.58. This showed that they agreed to the idea that time allocated for languages was adequate in secondary schools in North-Central Zone of Nigeria. Item 6 was designed to find out if the time allocated for languages in secondary schools in North-Central Zone of Nigeria was effectively utilized. The mean response to this item was 3.93 which was agreed. This indicated that the respondents opined that there was effective utilization of time allocated for Languages.

The following item was item 7, which sought to know the opinions of the respondents on adequate provision of time for Mathematics in secondary schools in North-Central Zone of

Nigeria. The mean response of the stakeholders to this was 3.53. By their opinions they agreed that there was adequate provision of time for Mathematics in secondary schools in North-Central Zone of Nigeria. In the same vein, the opinions of the stakeholders on item 8 was 3.84, which was agreed. The expression was that there was effective utilization of time allocated for Mathematics in secondary schools in North-Central Zone of Nigeria.

Item 9 sought to find out whether the time allocated for Vocational and Technical subjects was quite adequate in secondary schools in North-Central Zone of Nigeria. The mean response of the stakeholders was 3.1 which was undecided. This shows that the respondents were divided because some were in doubt over the statement in the item. It showed that time allocated for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria was not adequate. The last item, which was item 10 was to find out if there was effective utilization of time allocated for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. The mean response of respondents to this item was 3.63, which was agreed. This shows that the respondents opined that there was effective utilization of time allocated for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria.

Table 4.6 showed that the respondents agreed to nine items while they were undecided on one item. By their opinions, there was adequate provision and effective utilization of time for Science, Art subjects, Languages and Mathematics in secondary schools in North-Central Zone of Nigeria. They were undecided on adequate provision of time for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. However, they agreed on effective utilization of time allocated for those Vocational and Technical subjects.

4.4 Hypotheses Testing

Four hypotheses were formulated and tested in this research. All the hypotheses were formulated in null forms. The four hypotheses were formulated to test the differences in the opinions of the five groups of the stakeholders. The hypotheses are:-

H_{O1} There is no significant difference in the opinions of the stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria;

H_{O2} Is there any significant difference in the opinions of the stakeholders on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria;

H_{O3} How significant is the difference in the opinions of the stakeholders on the provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria; and

H_{O4} Is there any significant difference in the opinions of the stakeholders on the provision and utilization of time in secondary school in North-Central Zone of Nigeria.

These four hypotheses were tested using Analysis of Variance statistics. The use of ANOVA was considered as an effective way of determining significant difference in the opinions of more than two samples or groups. The level of significance used was 0.05. Hence a hypothesis was accepted when the ANOVA P.value was greater than 0.05 alpha level of significance and a hypothesis was rejected when the ANOVA Pvalue was lower than 0.05 alpha level of significance, respectively.

Hypothesis One: Hypothesis one states that there is no significant difference in the opinions of the stakeholders on provision and utilization of human resources in Secondary Schools in North-Central Zone of Nigeria. Data collected in this were in table 4.3. Details of Analysis of Variance statistics are captured in Table 4.7.

Table 4.7: Analysis of Variance Statistics on the Difference in the Opinions of Stakeholders on the Provision and Utilization of Human Resources in Secondary Schools in North-Central Zone of Nigeria.

Variations	Sum of Squares	Df	Mean Square	F	F critical	Sig.
Between Groups	237.134	4	59.284	1.724	2.60	.142
Within Groups	57227.192	1664	34.391			
Total	57464.326	1668				

Table 4.7 shows the results of the Analysis of Variance statistics which revealed that there was no significant difference among respondents in their perceptions regarding provision and utilization of Human Resources in Secondary schools in North-Central Zone of Nigeria. Reason being that the calculated ANOVA p value of 0.142 was higher than the 0.05 (or 5%) alpha level of significance while the F calculated ratio of 1.724 was lower than the F critical value of 2.60. Thus the null hypotheses which said that there is no significant difference in the opinions of the stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria was accepted and retained.

Table 4.8: Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Human Resources in Secondary School in North-Central Zone of Nigeria

(I) Status	(J) Status	Mean Difference (I-J)	Std. Error	Sig.
Teacher	Principal/vice principal	-.67601	.43404	.658
	Officials of MOE	-.04445	.52295	1.000
	Officials of PTA	-.90283	.42576	.343
	Non Academic staff	-.10817	.42576	.999
Principal/vice principal	Teacher	.67601	.43404	.658
	Officials of MOE	.63155	.53173	.842
	Officials of PTA	-.22683	.43650	.992
	Non Academic staff	.56784	.43650	.792
Officials of MOE	Teacher	.04445	.52295	1.000
	Principal/vice principal	-.63155	.53173	.842
	Officials of PTA	-.85838	.52500	.614
	Non Academic staff	-.06371	.52500	1.000
Officials of PTA	Teacher	.90283	.42576	.343
	Principal/vice principal	.22683	.43650	.992
	Officials of MOE	.85838	.52500	.614
	Non Academic staff	.79467	.42828	.487
Non Academic staff	Teacher	.10817	.42576	.999
	Principal/vice principal	-.56784	.43650	.792
	Officials of MOE	.06371	.52500	1.000
	Officials of PTA	-.79467	.42828	.487

Table 4.9: Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Human Resources

Status	N	Subset for alpha =0.05
		1
Teachers	384	33.0625
Non Academic staff	375	33.1707
Principals/vice principals	348	33.7385
Officials of MOE	187	33.1070
Officials of PTA	375	33.9653
Sig.		.453

The Mean scores of the five categories of respondents on their perceptions on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria are 33.0625 for teachers, 33.1707 for Non Academic Staff, 33.7385 for Principals/Vice Principals, 33.1070 for Ministry of Education Officials and 33.9653 for Officials of PTA. The post Scheffe placed these Means in the share subset 1. This implies that their Means scores are not significantly different.

Hypothesis Two: Hypothesis two states that: Is there any significant difference in the opinions of the stakeholders on the provision and utilization of material resources in Secondary schools in North-Central Zone of Nigeria? Data collected in this were in Table 4.4 of the questionnaire. Details of Analysis of Variance statistics are captured in Table 4.10.

Table 4.10 Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria.

	Sum of Squares	Df	Mean Square	F	F critical	Sig.
Between Groups	460.551	4	115.138	2.639	2.60	.032
Within Groups	72607.038	1664	43.634			
Total	73067.589	1668				

Table 4.11 Analysis of Variance Statistics on the Difference in the Perceptions of the Stakeholders on Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria.

Provision and Utilization of Material Resources

	N	Mean	Std. Deviation	Std. Error
Teacher	384	36.4104	4.1010	.32164
Principal/vice principal	348	37.1822	3.5410	.28186
Officials of MOE	187	34.0999	4.5412	.49907
Officials of PTA	375	33.1200	4.0000	.31140
Non Academic staff	375	35.1787	4.1510	.01098
Total	1669	35.2101	4.0850	.10201

Outcome of the Analysis of variance statistics in Tables 4.10 and 4.11 revealed that there was significant difference among respondents in their perceptions regarding the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria. Reason being that the calculated ANOVA P value of 0.032 was lower than the 0.05 (or 5%) alpha level of significance while the F calculated ratio of 2.639 was higher than the F critical value of 2.60. Therefore, the null hypothesis which states that there is no significant difference in the opinions of the stakeholders on provision and utilization of material resources in Secondary schools in North-Central Zone of Nigeria, is hereby rejected.

Table 4.12. Post Hoc Tests and Multiple Comparisons in Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on Provision and Utilization of Material Resources in Secondary schools in North-Central Zone of Nigeria.

Post Hoc Tests
Multiple Comparisons
Dependent Variable: Provision and utilization of Material Resource LSD

(I) status	(J) status	Mean Difference (I-J)	Std. Error	Sig.
Teacher	Principal/vice principal	54100	.48889	.110
	Officials of MOE	-1.10210*	.58904	.010
	Officials of PTA	-1.30101	.47957	.006
	Non Academic staff	-.66825	.47957	.122
Principal/vice principal	Teacher	.67062	.48889	.180
	Officials of MOE	-.854152	.59893	.110
	Officials of PTA	-.6600	.49167	.010
	Non Academic staff	.00547	.49167	.006
Officials of MOE	Teacher	1.51214*	.58904	.122
	Principal/vice principal	.8100	.59893	.180
	Officials of PTA	.19337	.59135	.110
	Non Academic staff	.80107	.59135	.010
Officials of PTA	Teacher	1.33010*	.47957	.006
	Principal/vice principal	.66010	.49167	.122
	Officials of MOE	-.19010	.59135	.180
	Non Academic staff	.66101	.48241	.110
Non Academic staff	Teacher	.66825	.47957	.010
	Principal/vice principal	-.00237	.49167	.006
	Officials of MOE	-.85877	.59135	.122
	Officials of PTA	-.66400	.48241	.180

*. The mean difference is significant at the 0.05 level.

Table 4.12 shows the result of Post-Hoc Tests and multiple comparisons of the variables on provision and utilization of material resources.

Table 4.13: Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Material Resources in Secondary School in North-Central Zone of Nigeria

(I) Status	(J) Status	Mean Difference (I-J)	Std. Error	Sig.
Teacher	Principal/vice principal	-.67062	.48889	.758
	Officials of MOE	-1.52702	.58904	.152
	Officials of PTA	-1.33225	.47957	.103
	Non Academic staff	-.66825	.47957	.746
Principal/vice principal	Teacher	.67062	.48889	.758
	Officials of MOE	-.85640	.59893	.728
	Officials of PTA	-.66163	.49167	.770
	Non Academic staff	.00237	.49167	1.000
Officials of MOE	Teacher	1.52702	.58904	.152
	Principal/vice principal	.85640	.59893	.728
	Officials of PTA	.19477	.59135	.999
	Non Academic staff	.85877	.59135	.716
Officials of PTA	Teacher	1.33225	.47957	.103
	Principal/vice principal	.66163	.49167	.770
	Officials of MOE	-.19477	.59135	.999
	Non Academic staff	.66400	.48241	.755
Non Academic staff	Teacher	.66825	.47957	.746
	Principal/vice principal	-.00237	.49167	1.000
	Officials of MOE	-.85877	.59135	.716
	Officials of PTA	-.66400	.48241	.755

Table 4.14 Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Material Resources

Status	N	Subset for alpha =0.05
		1
Teacher	384	33.5104
Non Academic staff	375	34.1787
Principal/vice principal	348	34.1810
Officials of MOE	187	35.0374
Officials of PTA	375	34.8427
Sig.		.083

The Mean scores of the five categories of respondents on their perceptions on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria are 33.5104 for teachers, 34.1787 for Non Academic Staff, 34.1810 for Principals/Vice Principals, 35.0374 for Ministry of Education Officials and 34.18427 for Officials of PTA. The post Scheffe placed these Means in the share subset 1. This implies that their Means scores are not significantly different.

Hypothesis Three: Hypothesis three states that: How significant is the difference in the opinions of the stakeholders on the provision and utilization of Financial Resources in Secondary schools in North-Central Zone of Nigeria? Data collected in this were in table 4.5 of the questionnaire. Details of Analysis of Variance statistic are captured in Table 4.15.

Table 4.15: Analysis of Variance Statistics on the Difference in the Opinions of the Stakeholders on the Provision and Utilization of Financial Resources in Secondary Schools in North-Central Zone of Nigeria.

Variations	Sum of Squares	Df	Mean Square	F	F critical	Sig.
Between Groups	233.060	4	58.265	1.687	2.60	.150
Within Groups	57457.490	1664	34.530			
Total	57690.550	1668				

Results of the Analysis of variance statistics in Table 4.15 revealed that there was no significant difference among the stakeholders in their perceptions regarding provision and utilization of financial resources in Secondary schools in North-Central Zone of Nigeria. Reason being that the calculated ANOVA p value of 0.150 was higher than the 0.05 (or 5%) alpha level of significance while the Fcalculated ratio of 1.687 was lower than the F critical value of 2.60. Therefore, the null hypothesis which state that there is no significant difference in the opinions of the respondents on provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria, is hereby accepted and retained.

Table 4.16: Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Financial Resources in Secondary School in North-Central Zone of Nigeria

(I) Status	(J) Status	Mean Difference (I-J)	Std. Error	Sig.
Teacher	Principal/vice principal	-.09276	.43491	1.000
	Officials of MOE	-.17311	.52400	.999
	Officials of PTA	-.94019	.42662	.303
	Non Academic staff	-.01485	.42662	1.000
Principal/vice principal	Teacher	.09276	.43491	1.000
	Officials of MOE	-.08035	.53280	1.000
	Officials of PTA	-.84743	.43738	.441
	Non Academic staff	.07791	.43738	1.000
Officials of MOE	Teacher	.17311	.52400	.999
	Principal/vice principal	.08035	.53280	1.000
	Officials of PTA	-.76707	.52605	.713
	Non Academic staff	.15826	.52605	.999
Officials of PTA	Teacher	.94019	.42662	.303
	Principal/vice principal	.84743	.43738	.441
	Officials of MOE	.76707	.52605	.713
	Non Academic staff	.92533	.42914	.326
Non Academic staff	Teacher	.01485	.42662	1.000
	Principal/vice principal	-.07791	.43738	1.000
	Officials of MOE	-.15826	.52605	.999
	Officials of PTA	-.92533	.42914	.326

Table 4.17 Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Financial Resources

Status	N	Subset for alpha =0.05
		1
Teacher	384	33.1745
Non Academic staff	375	33.1893
Principal/vice principal	348	33.2672
Officials of MOE	187	33.3476
Officials of PTA	375	34.1147
Sig.		.412

The Mean scores of the five categories of respondents on their perceptions on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria are 33.1745 for teachers, 33.1893 for Non Academic Staff, 33.2672 for Principals/Vice Principals, 33.3476 for Ministry of Education Officials and 34.1147 for Officials of PTA. The post Scheffe placed these Means in the share subset 1. This implies that their Means scores are not significantly different.

Hypothesis Four: Hypothesis four states that: Is there any significant difference in the opinions of the stakeholders on provision and utilization of time in Secondary schools in North-Central Zone of Nigeria? Data collected in this were in table 4.6. Details of Analysis of Variance statistics are captured in Table 4.18.

Table 4.18: Analysis of Variance Statistics on the Difference in the Opinions of the Respondents on Provision and Utilization of Time in Secondary Schools in North-Central Zone of Nigeria.

Variations	Sum of Squares	Df	Mean Square	F	F critical	Sig.
Between Groups	223.034	4	55.758	1.615	2.60	.168
Within Groups	57449.836	1664	34.525			
Total	57672.870	1668				

Result of the Analysis of Variance statistics above revealed that there was no significant difference among stakeholders in their perceptions regarding provision and utilization of Time as a resource in Secondary schools in North-Central Zone of Nigeria. Reason being that the calculated ANOVA p value of 0.168 was higher than the 0.05 (or 5%) alpha level of significance while the F calculated ratio of 1.615 was lower than the F critical value of 2.60. Therefore, the null hypothesis which states that there is no significant difference in the opinions of respondents on provision and utilization of Time in secondary schools in North-Central Zone of Nigeria, is hereby accepted and retained.

Table 4.19: Post Scheffe Tests on the Opinions of Stakeholders on the Provision and Utilization of Time Resources in Secondary School in North-Central Zone of Nigeria

(I) Status	(J) Status	Mean Difference (I-J)	Std. Error	Sig.
Teacher	Principal/vice principal	-.08450	.43488	1.000
	Officials of MOE	-.22208	.52396	.996
	Officials of PTA	-.90894	.42659	.338
	Non Academic staff	.01640	.42659	1.000
Principal/vice principal	Teacher	.08450	.43488	1.000
	Officials of MOE	-.13758	.53276	.999
	Officials of PTA	-.82444	.43735	.470
	Non Academic staff	.10090	.43735	1.000
Officials of MOE	Teacher	.22208	.52396	.996
	Principal/vice principal	.13758	.53276	.999
	Officials of PTA	-.68686	.52602	.790
	Non Academic staff	.23847	.52602	.995
Officials of PTA	Teacher	.90894	.42659	.338
	Principal/vice principal	.82444	.43735	.470
	Officials of MOE	.68686	.52602	.790
	Non Academic staff	.92533	.42911	.326
Non Academic staff	Teacher	-.01640	.42659	1.000
	Principal/vice principal	-.10090	.43735	1.000
	Officials of MOE	-.23847	.52602	.995
	Officials of PTA	-.92533	.42911	.326

Table 4.20 Homogeneous Subsets on Post Scheffe Test on Provision and Utilization of Time Resources

Status	N	Subset for alpha =0.05
		1
Teacher	384	33.2057
Non Academic staff	375	33.1893
Principal/vice principal	348	33.2902
Officials of MOE	187	33.4278
Officials of PTA	375	34.1147
Sig.		.429

The Mean scores of the five categories of respondents on their perceptions on provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria are 33.2057 for teachers, 33.1893 for Non Academic Staff, 33.2902 for Principals/Vice Principals, 33.4278 for Ministry of Education Officials and 34.1147 for Officials of PTA. The post Scheffe placed these Means in the share subset 1. This implies that their Means scores are not significantly different.

Table 4.21: Summary of Hypotheses Testing

S/N	Hypothesis	Statistical Method	Significant Level	Result	Restated Hypothesis
H_{O1}	There is no significant difference in the opinions of the stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria.	Analysis of Variance (ANOVA)	0.05	Accepted	There is no significant difference in the opinions of the stakeholders on provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria.
H_{O2}	There is no significant difference in the opinions of the stakeholders on the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria.	Analysis of Variance (ANOVA)	0.05	Rejected	There is significant difference in the opinions of the stakeholders on the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria.
H_{O3}	There is no significant difference in the opinion of the stakeholders on provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria.	Analysis of Variance (ANOVA)	0.05	Accepted	There is no significant difference in the opinion of the stakeholders on provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria.
H_{O4}	There is no significant difference in the opinions of the stakeholders on the provision and utilization of time in secondary schools in North-Central Zone of Nigeria.	Analysis of Variance (ANOVA)	0.05	Accepted	There is no significant difference in the opinions of the stakeholders on the provision and utilization of time in secondary schools in North-Central Zone of Nigeria.

4.5 Summary of Major Findings

The study revealed that:

i. there was adequate provision of human resources for Art subjects only. They opined inadequacy of human resources in Vocational and Technical subjects. They confirm effective utilization of human resources in all the subject areas.

ii. the provision of material resources was adequate for Mathematics, Art and Language subjects in secondary schools in the zone. The stakeholders confirmed inadequate provision of material resources for Vocational and Technical subjects. However, their perception showed that there was effective utilization of available material resources in all the subject areas, even where the provisions of resources were not adequate.

iii. provision of financial resources for Science, Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria was inadequate. They were undecided on provision of financial resources for Mathematics, Languages and Art subjects. This indicated that there was inadequate provision of financial resources for all the five subject areas in secondary schools in North-Central Zone of Nigeria. They expressed the view that there was effective utilization of financial resources for Art, Vocational and Technical subjects in the secondary schools in the zone.

iv. provision of time for all subject areas was quite adequate except in the areas of Vocational and Technical subjects where their general perception was undecided. They also indicated that there was effective utilization of time for all subjects in secondary schools in North-Central Zone of Nigeria.

4.6 Discussion of the Findings

This study was designed to examine the perception of stakeholders on the provision and utilization of resources in secondary schools in North-Central Zone of Nigeria. Based upon this, four hypotheses were raised; the discussion of findings is hereby presented in relation to the hypotheses.

The first hypothesis was that 'there is no significant difference in the opinions of the respondents on the provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria'.

The test of this hypothesis revealed that there was no significant difference among the stakeholders in their perceptions regarding provision and utilization of human resources for the management of teaching and learning in secondary schools in North-Central States of Nigeria. Their calculated mean perceptions regarding provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria were 33.0625, 33.7385, 33.1070, 33.9653 and 33.1707 by teachers, principal/vice principals, officials of MOE, officials of PTA and non-academic staff respectively. The post hoc multiple comparison using Least Significant Difference (LSD) also confirms that there was no significant difference among stakeholders in their perception regarding provision and utilization of human resources in secondary schools in North-Central Zone of Nigeria. The null hypothesis in this regard was consequently accepted and retained. Their responses in research question one showed that they agreed on many items of the questionnaire, they agreed on provision of human resources for Arts subjects. They were undecided on provision of human resources for Science subjects, Languages and Mathematics showing that provision of human resources for those subject areas could not be said to be adequate. Their responses also indicated that provision of human resources was inadequate for Vocational and Technical subjects.

This is in line with the claim of Adio, (2006) who asserted that among the shortcomings of teachers is the inadequacy of the teachers to meet the needs and challenges in

our secondary schools. This is clearly happening in our secondary schools today, particularly in the areas of the Mathematics, Science, Vocational and Technical subjects. In some schools those who were not academically qualified were therefore asked to teach some of these sensitive subjects. The subjects are then haphazardly taught, leading to poor performance of the students. In many secondary schools, non-academic staff such as laboratory attendants and librarians are not employed. Their roles become vacant and there are always lapses in the handing of laboratory and workshop equipment. In some cases, it leads to over-working of the few qualified ones available, which may lead to low productivity and inefficiency. Again, it leads to poor students' academic performance.

The respondents agreed to the questionnaire items on effective utilization of human resources in all the subject areas. This indicated that even in areas where human resources are not adequate, there is effective utilization of those ones available.

The second hypothesis was that 'there is no significant difference in the opinions of the respondents on the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria.

The outcome of the Analysis of Variance on the hypothesis revealed that significant difference existed among the stakeholders in their opinions on provision and utilization of material resources. Their calculated mean regarding their perception on the provision and utilization of material resources in secondary schools in North-Central Zone of Nigeria were 33.5104, 34.1810, 35,0374, 34.8427 and 34.1787 by teachers, principal/vice principals, officials of MOE, officials of PTA and non-academic staff respectively. The post hoc multiple comparison using LSD also confirmed that there was significant differences between teachers and ministry officials and also between teachers and non-academic staff. Therefore, the null hypothesis was rejected.

They, however, agreed to the questionnaire items on provision of material resources for Arts subjects, Languages and Mathematics, while they disagreed to the item of the

questionnaire on provision of material resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. This is in line with the assertion of Adesina, (1990) that no other area had been so neglected by educational planners during and after colonial era like educational facilities.

Mbata, (1990) also observed that in many secondary and technical schools, laboratories, workshops, classrooms, students' hostels and offices are substandard and not properly maintained. However, the respondents agreed to the effective utilization of the material resources in all the subject areas. It shows that even where the provision of the materials was not adequate, the ones available were well utilized and managed.

Looking at it from another angle, the difference in the opinions of the stakeholders on the provision and utilization of material resources may be as a result of location or other circumstances.

The third hypothesis was that 'there is no significant difference in the opinions of the respondents on the provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria'.

The result of the analysis of the hypothesis revealed that there was no significant difference in the perception of the respondents on the provision and utilization of financial resources in secondary schools. Thus, the null hypothesis was accepted and retained. Their calculated mean perception regarding provision and utilization of financial resources in secondary schools in North-Central Zone of Nigeria were 33.1745, 33.2672, 333476, 34.1147 and 33.1893 by teachers, principal/vice principals, officials of MOE, officials of PTA and non-academic staff respectively.

Their responses to the questionnaire items showed that they were undecided on adequate provision of financial resources for Art subjects, Languages and Mathematics and even disagreed entirely to provision of financial resources for Science, Vocational and Technical subjects. This implies generally that there is no adequate provision of financial

resources for almost all the subject areas in secondary schools in North-Central Zone of Nigeria.

Adequate funding has been a major problem of the education sector in general. This is in line with the statement of Obadara and Alaka (2010) that education has been in crisis for many years and much of the difficulty lies in the fact that the sector is poorly funded. They went further to say that this results in shortages of material and human resources being experienced in the system. The stakeholders agreed to effective utilization of financial resources for the management of teaching and learning of Art, Vocational and Technical subjects. However, they showed negative responses on effective utilization of financial resources in science subjects, Languages and Mathematics. This might be as a result of the fact that handling of money and other forms of financial resources were always done by the principal, the bursar, the proprietor and proprietress in cases of private schools. Transparency could not be ascertained by most of the respondents.

Test of significant differences in the opinions of the respondents on the provision and utilization of time in secondary schools in North-Central Zone of Nigeria was the next one.

The result of Analysis of Variance on the hypothesis showed that there was no significant difference in their opinions on provision and utilization of time resources in secondary schools in North-Central Zone of Nigeria. The calculated mean of their perception regarding provision and utilization of time in secondary schools in North-Central Zone of Nigeria was 33.2057, 33.2902, 33.4278, 34.1147 and 33.1893 by teachers, principal/vice principals, officials of MOE, officials of PTA and non-academic staff respectively. Even the post hoc multiple comparison using LSD also confirmed that there was no significant difference among the stakeholders in their perception regarding provision and utilization of time as a resource in secondary schools in North-Central Zone of Nigeria. The null hypothesis was accepted and retained. Time is such a natural resource that it is provided by nature. Time needs to be well utilized and managed because time not well utilized cannot be retrieved.

Atkinson (1988) asserted that time is not reclaimable because its movement is uncontrollable and time can only be controllable in terms of being well managed. The stakeholders also agreed that there is effective provision and utilization of time resources for all subjects in secondary schools in North-Central Zone of Nigeria.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Secondary education in Nigeria is of six years duration given in two tiers of three years each. This level of education is a link between primary and tertiary levels. Therefore, the level becomes vital to national development and adequate provision and utilization of resources become important in order to achieve its objectives.

The problem of the study revealed the consequences of short supply in each of the resources on teaching and learning. It had been observed that resources had been grossly inadequate in most of the secondary schools in North-Central Zone of the country which had led to poor performance of students.

Each of the resources – human, materials, finance and time has its own unique role to play in the process of teaching and learning. Therefore, the study was designed to find out the opinions of the secondary schools' stakeholders on provision and utilization of each of the resources in secondary schools in North-Central Zone of Nigeria.

The research objectives were stated in line with the four forms of resources which are human, materials, financial and time resources in secondary schools in North-Central Zone of Nigeria. Following the objectives, were the research questions which were formulated in line with the four objectives. After the research questions four hypotheses were formulated in null form. The four hypotheses were formulated to seek for the differences in the opinions of the five groups of the stakeholders in general.

The study was focused on perception of stakeholders on the provision and utilization of resources in secondary schools in North-Central Zone of Nigeria consisting of Benue, Kogi, Kwara, Nasarawa, Niger, Plateau and the Federal Capital Territory, Abuja and not in any other area of the country. Under the significance of the study the various individuals and bodies of

organization that can benefit from the findings of the study were mentioned and the ways the findings could be beneficial to them were stated.

Literature reviewed in chapter two was related to the variables identified in the study. Among the topics reviewed were human resources in secondary schools and the role of the teacher in teaching and learning. The review revealed that the teacher is the major human resource in the education sector whose role is very crucial to every education process. Also reviewed was the method of financing educational institutions and individual's education as both individuals and the society are the beneficiaries of education.

The method adopted in carrying out the research was explained. It contained research design, population of the study, sample and sampling technique and instrument for data collection. Other issues discussed in the chapter were validation of the instrument, pilot test, reliability of the instrument, method of data collection and method of data analysis.

The entire population for the study was 91,290 consisting of 56,806 teachers, 15,053 non-teaching staff, 3,179 principals/vice principals, 15,895 Parents and Teachers' Association (PTA) officials and 357 Ministry of Education officials who are all regarded as stakeholders in secondary schools. The sample which is a portion of the population is 1723. This was determined out of the population by using Taro Yamane formula. A self developed questionnaire was used to collect data from the respondents. However, 1742 copies of the questionnaire were distributed. The questionnaire consisted of 46 items divided into five sections (A – E). Section A was on personal data of the respondents while sections B – E were to solicit for the opinions of the respondents on the objectives and research questions of the study. Sections B – E were drawn in a Likert type of five points rating scale format of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

Mean and Standard Deviation Statistics were used to analyse the data to answer the research questions. Analysis of Variance (ANOVA) statistical method was used to analyse research hypotheses.

Bio-data of the study revealed that the teachers were the largest number of respondents with 23 percent of the total respondents, followed by non-academic staff with 22.5 percent. The officials of the Ministry of Education have the lowest number of respondents with 11.2 percent. Out of the respondents males were the larger with 61.4 percent while females were 38.6 percent. In the analysis of data, the first part contained four tables arranged according to the objectives of the study and the research questions. In each table there was a title and columns for serial number, item statements and response categories, which were Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. This was followed by columns for mean response to each item, decision for each item was stated to each mean response which might either be Agree, Undecided or Disagree. The last column was the value of standard deviation to each item. Under each table, the researcher discussed the result of the analysis of each item.

Four hypotheses were raised and tested using Analysis of Variance (ANOVA). In all, three hypotheses were accepted while one was rejected. A table of summary of the tested hypotheses was presented. The table showed the columns of serial numbers, hypothesis, statistical method, significant level, result (accepted or rejected) and re-stated hypothesis. Summary of major findings was stated, while the discussion of major findings followed immediately.

5.2 Conclusions

Human resources were not adequate for science, vocational and technical subjects, languages and mathematics, but the few once provided were effectively utilized. There was no difference in the opinions of the stakeholders in the test of hypothesis on provision and utilization of human resources in the states. Also, there was effective utilization of human resources for all subjects in secondary schools in the area of the study.

Provision of material resources was adequate for Mathematics, Art and Languages but not adequate for Science, Vocational and Technical subjects. In the test of hypothesis,

differences existed among the five groups of the stakeholders on the provision of materials. However, there was effective utilization of material resources for all subjects in secondary schools in the zone.

Provision of financial resources was not adequate for Science, Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria. However, there was effective utilization of financial resources for Arts, Vocational and Technical subjects.

Time resource in secondary schools was adequately provided and effectively utilized in almost all the subject areas, except in Vocational and Technical subjects where the respondents expressed inadequacy of time in secondary schools in North-Central Zone of Nigeria.

5.3 Recommendations

On the basis of the findings and conclusions, it is recommended that:

i. there is need to employ more qualified personnel in the secondary schools, particularly in the areas of Science, Mathematics, Vocational and Technical subjects so as to bridge the gap between required and available human resources. Principals could negotiate with National Youth Service Corps and N-power programme of the federal government for their members to secure more teachers;

ii. the principals and management of secondary schools in the zone need to devise more financial resources to supplement the existing ones in the school. More revenue could be raise within the school system such as organizing appeal fund, make appeal to old students and benevolent members of the community, increase revenue from school activities, students' handicraft, hiring out of school fields or halls, etc. However, the principals need to ensure that there is probity and accountability of all financial resources to give no doubt as to effective utilization of financial resources in secondary schools in the zone. In addition, appeal could be made to the government at various levels to increase their financial allocations to education, particularly at secondary

school level so as ease payment of salaries, procurement of materials, maintenance services and other costs;

iii. provision of adequate and up-to-date materials particularly Science Laboratory equipment, Basic Technology equipment, Home Economic materials and materials in other subjects is very important in secondary schools. Proprietor and proprietress of secondary schools in the zone are advised to monitor the utilization of school materials for prompt replenishment of consumable materials; and

iv. Since time lost can never be reclaimed, every secondary schools' management need to ensure that there is a well-planned class time table and schools' routine timetable to avoid loss of time in schools in the North-Central Zone of Nigeria. Principals need to ensure that teachers and prefects in charge of execution of the school time table adhere strictly to the schedule according to the timetable in order to have appropriate distribution of time on school activities.

5.4 Suggestions for Further Studies

The following related areas of study are suggested for further research work.

i. Evaluation of impact of resources on the academic performance of students in secondary schools in Northern states of Nigeria. This is to see which of the resources is having appreciable impact on the academic performance of students in the area.

ii. Comparative analysis of resources for the management of teaching and learning in Public and Private Secondary Schools in any state of Nigeria. This is to compare the management of resources and academic performance of private and public secondary schools in each state, particularly at senior secondary school certificate level.

iii. Analysis of internal efficiency in the utilization of human resources in selected secondary schools in every state of Nigeria. This is to measure human resource utilization in terms of relationship between teachers quality, students-teacher

ratio, teachers workload, in relation to students academic performance in each state. It will help in determining the role the teachers play in the academic performance of students in the state concerned.

iv. Teaching and learning resources and academic performance in science subjects or in vocational subjects. This is to determine the composite effect of the teaching and learning resources on academic performance of those specific subjects and determine which of the teaching and learning resources will predict better academic performance in the subject.

REFERENCES

Abdulkareem, A.Y. (2008) Innovative strategies for financial management in Nigerian public secondary schools. In P.N.C. Ngwu, (Ed).*2008 Principals Yearbook,* (pp85-97). Enugu: All Nigeria Confederation of Principals of Secondary Schools (ANCOPSS).

Abdulkareem, A.Y. & Fasasi, Y.A. (2010). *Management of educational facilities in Nigerian secondary schools: the roles of administrators and inspectors.* Ilorin: University of Ilorin.

Abdullahi, M.L. (2004). Managing school workshop tools and equipment in a depressed economy. *Spectrum Journal,* 12, (8).

Abdullahi, M.L. (2010). *Evaluation of youth empowerment scheme (YES) of the national poverty eradication programme (NAPEP) in north-western Nigeria.*Unpublished Ph.D. Thesis, University of Nigeria, Nsukka.

Abdul–Raheem, B.O. (2016). Effects of instructional materials on secondary schools students academic achievement in social studies in Ekiti State, Nigeria. *World Journal of education 6,1*.32 – 38.

Abimbade, A. (2006). *Principles and practice of educational technology, (3rd ed).* Accra, Ghana: Woeli Publishing Services.

Aboho, D.A. (2003). Women education and national development: problems and challenges. In A.O. Ochu, (ed). *Education for national growth and stability.* Makurdi: Peacemakers Publishing Co.

Abubakar, M.S. (2000). *The challenges of revitalizing the polytechnic curriculum*. A paper presented at the 2nd National seminar on the strategies for updating and modernizing science technology education, held between 8 – 11, August 2000, at I.M.T. Enugu.

Ada, S.O. (2008). *Principles of management: solution* series. Kano: MIT Press.

Adeboyeje, R.A. (1994). *Management of school physical facilities.* Ibadan: Fountain Publisher.

Adediran, A.A. (2014). *Students centred teaching methods and utilization of instructional strategies for effective social studies teaching.* A paper presented at the 58th world assembly of the international council on education for teaching (ICET) of the university of Ontario institute of technology, Oshaema, Ontario, Canada between 15th – 20th June, 2014.

Adejoh, M.J. (2006). *Evaluation of the integrated science and introductory Technology programmes in secondary schools in Benue state*. Unpublished Ph.D Thesis, University of Jos.

Adeogun, A.A. (1999). Resource provision and utilization: A case study of technical colleges in Lagos state. *African Journal of Educational Management, 7(1)*: 41-48.

Adeoye, B.F. (2012). *Technology guide for teaching and learning*. Lagos, Nigeria. Eagle Wing Publish.

Adepoju, T. L. (1998). *Fundamentals of school administration, planning and supervision in Nigeria*. Ibadan: Alafas Nig. Comp.

Adesina, S. (1980).*Some aspects of school management*. Ibadan: Educational Industries Nig. Ltd.

Adesina, S. (1990).*Educational management*. Enugu: Fourth Dimension.

Adewoyin, J.A. (2004). *Fundamentals of educational technology*. Lagos: Raytel communication Ltd.

Adio, K.O. (2006). *Problems and prospects of learning introductory technology in Ilorin*, Kwara state. Unpublished PGDE Thesis, University of Ilorin, Ilorin.

Aduwa–Ogiegbaen, S.O. & Imogie, A.L, (2005). *Instructional communication and technology in higher education*. Ibadan: Stirling Hordon Pub. Ltd.

Agina-obu, T.N. (2005). The relevance of instructional materials in teaching and learning. In I. Robert-Okah K.C. Uzoeshi, (Eds). *Theories and practice of teaching*. Port Harcourt: Harey Publication.

Ahiakwo, M.J. (2007). Refocusing education for relevance and sustainable national development. *Knowledge Review. A multi-disciplinary journal*, 15 No.2.

Ahmed, T.M. (2003). Education and national development in Nigeria. *Journal of studies in Education, 10*, 35 – 46.

Aibinu, M. (2018). Education sector gets paltry N3.9 trillion out of N55.19 trillion in 10 years. Retrieved from https://www.vanguardngr.com/2018/04/education-free-fall/.

Ajayi, A.O (2015). Towards effective teaching and learning of history in Nigeria secondary schools *International Journal of Recent Research in Social and Humanities, 2,2* 137 – 142.

Akangbou, S.D. (1987). *The economics of education: An introduction*. Ibadan: Shaneson C.I. Ltd.

Akinleye, G.A. (2010). *Enhancing the quality of life in this complicated but dynamic world*, 25th Inaugural lecture, University of Ado – Ekiti.

Akinsolu, A.O. (2012). Resources utilization and internal efficiency in Nigerian secondary schools: Implication for socio problems of education. *International Journal of Sociology and Anthropology,* 4,(1) 23-30.

Akomolafe, C.O. (2005). Principals time management abilities in secondary schools in Nigeria. *Journal of Educational Administration and Planning, 5 (1),* 58 – 67.

Akpa, G.O. (1998). Supervision as an instrument of teaching and learning effectiveness: Challenge for Nigerian Practice. *Nigerian Journal of Curriculum Studies, Special Series No2*.

Alaka, A.A. (2013). Fund allocation and utilization as correlates of students' achievement in public secondary schools in Nigeria. *European Journal of Educational Sciences,*1(1), 38-45.

Anyaogu, U. (2004). *Resource availability and utilization as correlates of students' performance in Ibadan North Local Government Area of Oyo State, Nigeria*. M.Ed project University of Ibadan, Ibadan.

Anyokoha, E.U. (1994) Development and utilization of facilities for Home Economics Education Programme in Nigerian Schools and Colleges for manpower development. *Nigerian Vocational Journal,* 1,16-24.

Aquinas, P.G. (2005).*Principals of management: Foundations and realities.* New Delhi: Anmol Publications Pvt. Ltd.

Arum, J.N. (2015). Availability and utilization of instructional materials for the implementation of the new biology curriculum in senior secondary schools in Lagos, Nigeria. Sky Journal of Educational Research, 3 (7) 78 – 86.

Asemah, J.I. (2010). *Perspective in educational management and administration.* Makurdi. Chris publishers.

Asokhia, M.O. (2009). Improvisation/Teaching Aids: Aids to effective teaching of English language. *Journal of Education and Science, 1(2)* 79-85.

Atkinson, J.M. (1988). *Coping with stress at work*. Wellingborough: Thorsons Publishing Group.

Awotunde, P.O. (1992). Towards improving technology education for technological development in Nigeria. In P.O. Awotunde (Ed.) *Issues in technology education for development* (pp 59-67). Jos: Crown Publishers.

Ayodele, J.B.(2004). The role of head teachers in school plant management and maintenance. In E.O. Fagbamiye, J.B. Babalola, M. Fabunmi & A.O. Ayeni, (Eds.).*Management of primary and secondary education in Nigeria* (pp.93-100) Ibadan: NAEAP.

Bedeian, A.G. (1980).*Organizations: Theory and analysis.* Hisden Ill: The Dryden press.

Berry, J. (2004) *Tangible strategies for intangible assets.* New York: McGraw-Hill.

Best, J.W. & Kahn, J.V. (2006). *Research in education.* India: Pearson Education.

Beynon, J. (1985). Physical plant: planning for educational use. *The Encyclopedia of Education,* 7.

Bishop, J.H. (1995). *Expertise and excellence.* Ithaca: School of Industrial Labour Relation. Cornell University.

Blair, G.M. (n.d.) *Personal time management for busy managers.* Retrieved from http://www.see.ed.ik/general/management/art2.html.

Brooks, J.G. & Brooks, M.G. (1993). *In search of understanding: The case for constructivist classrooms.* Alexandra, VA: Association of Supervision and Curriculum Development (ASCD).

Bruner, J.S. (1960). *The process of education*. Cambridge: Harward University Press.

Bua, F.T. & Adzongo, P.I. (2014). Impact of financial management of secondary schools administration in Zone A senatorial district of Benue state, Nigeria. *Public Policy and Administration Research*, 4, 9.

Budgetary Allocation to Education Sector. Stati-sense. Retrieved from www.statisense.com.

Bulama, K.H. (2001). *An evaluation of educational facilities in technical colleges in North Eastern Nigeria*. Unpublished Ph.D. Thesis, University of Nigeria, Nsukka.

Central Bank of Nigeria, (2000).*Annual report on statement of account*. Abuja: Government press.

Chanda, D.H., Phiri, S.N.A. & Nkasha, D.C. (2000). *Teaching and learning materials analysis and development*. Lusaka, Zambia: UNESCO Basic Education Capacity Building Project. Retrieved online.

Chianson, M.M. (2012 June). School location as a correlate of mathematics students achieve in a cooperative learning class. *Journal of Education and Leadership Development, 4,* 42 – 46.

Cohen, L. Manion, L. & Morrison, K. (2007). *Research methods in education, (6th edition).* London: Routledges Taylor and Francis Group.

Cole, G. (2004). *Management theory and particle, (6th Ed.).* London: Book Power.

Cole, G.A. (1986). *Management theory and practice (2nd Ed.)* Eastleigh: DP Publications Ltd.

Cozby, P.C. (2007). *Method in behavioural research (9th Edition).* Boston: McGraw Hill Coy.

Dada, P.C. (1994). School community relationship in education. In A.B. Fafunwa and A. Adaralegbe (Eds). *Education in Nigeria towards better administration and supervision of instruction*. Ibadan: Caxton Press Ltd.

Daluba, N.F. (2012). Evaluation of resources available for teaching science in secondary schools: implications for vision 20: 2020. *Journal of Emerging Trends in Educational Research and Policy Studies, (JETERAPS), 3,(3),* 363-367.

Danko, A.I. (2006). The role of vocational and technical education in national development. In U.A. Zahraddeen; M.M. Aliyu, U.L. Kurya& A.K. Kurifi (Eds.).*Entrepreneurship education for vocational and technical students* (pp.17-23) Kano: Benchmark publishers Ltd.

Dare, M.O. (2008). The management of secondary education for job creation in Nigeria in the 21st century. *Journal of Educational Management and Planning, 8, 1,* 155 – 158.

Dare, M.O. (2009). *Theories and concept of educational administration, planning and supervision for tertiary institutions in Nigeria.* Kano: Afomat Prints.

Data, A.(1986).*Education and Society: A sociology of African education*. London: Macmillan Publishers.

Dauda, R.O. S. (2010). Investment in education and economic growth in Nigeria: An Empirical Evidence. *International Research Journal of Finance and Economics, 55, 158–169. Digest of Education Statistics.* Table 375. Washington, D.C.

Didactic Encyclopedia, (2015). Retrieved from https://edukalife.blogspot.com.ng/2015/09/what_is_meaning_of_material_resources.html

Dienes, Z.P. (1969). *Building up Mathematics* (Rev. ed). London: Hutchison Educational.

Drost, E.A. (2011). Validity and reliability in social science research. *Education Research and Perspectives, 38,*1:105-124.

Ebong, J.M. (1997).*Time management techniques for the avoidance of time wasters in education.* Journal of education in developing Areas, x(1), 13-19.

Ekpo, O.E. (2014). *Instructional strategies and the challenges of implementing school curriculum in Nigeria.* Lead paper presentation at 17th annual conference of the curriculum organization of Nigeria (CON), held as University of Uyo, Uyo of 17th Sept.

Ekundayo, H.T. & Alonge, H.O. (2012 May). Human and material resources as correlates of academic performance of private and public secondary school students in Ondo state, Nigeria. *European Scientific Journal, 8*(16), 170-180.

Ekundayo, H.T. (2010). Administering secondary schools in Nigeria for quality output in the 21st century: the principals challenge. *European Journal of Education Studies,* 2(3) 186-192.

Enaigbe, A.P. (2009). Strategies for improving supervisory skills for effective primary education in Nigeria. *Edo Journal of counseling, 2 (2)* 235 – 244.

Eresimmadu, F.N.J. (1996). Finance and cost concepts in education.In H.O.N. Bosah and G.O. Eneasator, (Eds) *Dimension of educational planning and economics of education*. Lagos: Ed-solid foundation publishers.

Ernest, M. (1991). *Efficiency in learning: evidence-based guidelines to manage cognitive load.* San Francisco: Pfeiffer.

Essien, J.E. (1975). *Education and the challenge of quality.* Benin city, Nigeria: Ethiope publishing corp.

European Commission. (2005). *The return of various types of investment in education and training.* London: European Commission Directorate of General Education and Culture.

Ezeji, S.C.A. (2004). *A guide to preparing educational specification for industrial art facilities.* Enugu: Cheson Agency Limited.

Ezeocha, P.A. (1990). *School supervision.* Owerri: International Universities press.

Fafunwa, B. (1974). *History of education in Nigeria.* London: Allen & Unwin.

Fagbulu, A.M. (2004). *Administrative practice for teachers.* London: Evans Brothers Ltd.

Farrant, J.S. (1980). *Principles and practice of education.*(New Edition) Hong Kong: SheckWah Tong Printing Press Ltd.

Federal Ministry of Education (2005, May). *Nigeria education sector diagnosis: A condensed version.* Abuja: Author (Educator Sector Analysis Unit).

Federal Ministry of Education (2011). *Nigeria digest of education statistics 2006 – 2010.* Abuja: Federal Ministry of Education.

Federal Republic of Nigeria (2004) *National policy on education (4*th edition). Lagos: National Educational Research and Development Council (NERDC).

Federal Republic of Nigeria (2009).*Annual abstracts of statistics.* Abuja: National Bureau of statistics.

Federal Republic of Nigeria (2014) *National policy on education (6*th edition). Lagos: National Educational Research and Development Council (NERDC).

Festus, C. & Ekpete, O.A. (2011). *Time management for result oriented learning.* A paper presented at the proceeding of the 2011 International Conference on Teaching, Learning and Change. International Association for Teaching and Learning. Retrieved online.

Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York. McGraw-Hill.

Floden, C.V. (1994). Cognitive principles of multimedia learning: The role of modality and contiguity. *Journal of Educational Psychology 91(2)*: 358-368.

Frisbie, D.A. (1992). The multiple true – false item format: A status review. *Educational Measurement: Issues and Practice,* 11(4), 21 - 46

Glasersfeld, T.F. (1989). *Cognition, construction of knowledge, and teaching.* Albion: Syntheser Press.

Government of South Australia (2010, Sept.). *DECD arbitrated award*. 2010 implementation sheet.

Hall, J. (2000). Investment in education: private and public returns. *Joint Economic Committee Study*. Retrieved from http://www.house.gov/jec/educ.htm.

Heinich, R., Molenda, M. & Russell, J.D. (2006). *Instructional media and the new technology of instruction.* New York: John Wiley and Sons.

Hellriegel, D. & Slocum, J. (Jr.) (1976).*Organisational behaviour: contingency view*. New York: West Publishing Co.

Herzberg, F. (1968). *One more time: How do you motivate employees.* Harvard Business Review. (Jan.-Feb.), 53-62.

How to Calculate Sample Size Using Two Taro Yamani Formula. Retrieved from online dailys.com.

Igwe, S.O. (1988). Community financing of schools in Eastern Nigeria. In M. Brag & K. Lillis (Eds).*Community financing of education: Issues and policy implications in less developed countries*. Oxford: Pergaman Press.

Imahiagbe, K.O. (1992). Vocational education programmes in Nigeria: Issues and challenges. *Journal of technical teacher education, 1, (1),* 42-43.

Isola, O.M. (2010). *Effects of standardized and improvised instructional materials on students' academic achievements in secondary school physics*. Unpublished M.Ed. Thesis, University of Ibadan.

Israel, G.D. (2012). *Determining sample size.* Florida: University of Florida Institute of Food and Agricultural Services (IFAS).

Ivowi, U.M.O. (2004). *Teaching, learning and resource development in secondary education*. A paper presented at the national workshop on developing education: issues of standards and sustainability in secondary schools in Nigeria, at Chida Int. Hotel, Abuja.

Jaiyeoba, A.O. (2004). Community participation in the provision of facilities in secondary schools in Nigeria. In E.O. Fagbamiye, E.O.J. *Administration of primary and secondary education in Nigeria* (pp263-270.Ibadan; Codat publication Ltd.

Jekayinfa, A.A. (2012). *Fundamentals of instructional methods*. Ilorin: Olives Production Ltd.

Johnson, S.I. (2005). *Fundamentals of improvisation for school science equipment*. Kano: Ejire and Sons.

Jorgenson, D.M. & Griliches, Z. (1967).The explanation of productivity change. *Review of Economic Studies, 34,(3)* 249 – 293.

Jumare, A.M. (2015). *An introduction to educational management and ethics*. Zaria: Concept Designs and Prints.

Keesee, G.S. (2012) *Learning theory and instructional design/technology.* Page history: Retrieved online.

King, E. M. & Smith, J. P. (1988).*Computing economic loss in case of wrongful death*. Santa Monica: The Rand Corporation.

Knezevich, S.J. (1975). *Administration of public education*. New York: Harper and Row Publishers.

Larson, E.M. (1982). *A checklist of facilities-planning 'musts': modern school shop planning.* Ann Arbor, Michigan: Prakken Publishing Inc.

Lawal, A.O. (2010). Technological advancement: A farce without proper technology education. *Ilorin Journal of Vocational and Technical Studies, 2, (1),* 1 – 8.

Lawal, H.M. (2002).Financing of education in Nigeria. *Journal of Educational Management and Planning*, 1,1, 72-79.

Lewis, C.F. (1961). *The school time-table.* Cambridge: The University Press.

Lunenburg, F.C. (2010). Schools as open systems. *Schooling*,1,1. Retrieved online.

Lunenburg, F.C. & Ornstein, A.C. (2008).*Educational Administration: Concepts of practices (5th Edition).* Wadsworth, USA: Congage learning.

Mamman, A.B., Oyebanji, J.O. & Petters, S.W. (2000). *Nigeria: A people united, a future assured, (millennium edition). Survey of states*. Abuja: Federal Ministry of Information.

Manga, S.D.(2015). *Introduction to Educational Management*. Sokoto: Usmanu Danfodiyo University Press.

Martin, O.B. (1971). *Economic dimensions in education.* Dublin: Gil and Macmillan Ltd.

Mathew, I.A. (2016). Financial allocation to education: Trends, issues and way forward in Nigeria. *Journal Plus Education, 26, 1,* 227 -242.

Mbata, A. (1990). Towards a more effective manpower training and development in the field of technical education in Nigeria. *Journal of technical education review, 2,(2)* 20-31.

McLeod, S.A. (2008). Likert scale. Retrieved from www.simplypsychology.org/likerscale.html.

McMahon, M. (1997, December). *Social constructivism and the world-wide-web:* A paradigm for learning: Paper presented at the ASCLITE Conference. Perth: Australia.

Medayese, F.J. (2012, Sept). *The use of instructional materials in social studies instructions.* Jos: University of Jos. Retrieved online.

Mehrabian, A. (1972). *Nonverbal communication*. Hawthrone, New York: Alkine publishing.

Miller, G.T. & Spoolman, S.(2011). *Living in the environment: principles, connections and solutions (17th ed.).* Belmont, C.A.: Brook-Cole.

Mincer, Jacob (1992).Educational unemployment. In J. Mincer (Ed.). *Studies in Human Capital.* Cambridge, U.K.: Edward Elgar.

Moja, T. (2000).*Nigerian education sector analysis: An analytical synthesis of performance and main issues.* New York: Document produced for the World Bank. Retrieved Jan. 25, 2011.

Momoh, G.O. (1995). An evaluation of the objectives and contents of introductory technology curriculum for junior secondary schools in Kwara state. *Spectrum Journal, 2 (1&2)* 1 – 9.

Mordi, C.E. (2009). Observation of Classroom interactions. *Abraka eduserve consult, 2,* 87. 103.

Mugure, S.M. (2012). *Impact of resource utilization in education as perceived by teachers in secondary schools in Mathioya District, Muranga County, Kenya.* Unpublished M.Ed Thesis; Kenyatta University, Kenya.

Musaazi, J.C.S. (1982). *The theory and practice of educational administration.* London: Macmillan Press Ltd.

Newby, T.J., Stepich, D.A., Lehman, J.D. & Russell, J.D. (2006). *Educational technology for teaching and learning, (3rd Ed.).* New Jersey, USA: Merill Prentice Hall.

Nuhu, N.I. & Jimada, A. (2012). *Fundamentals and educational technology*. Kaduna: Global Landmark Integrated Prints Ltd.

Nwachukwu, P.O. (2014). Quantitative teaching in economics through effective utilization of learning resource in senior secondary schools in Shomolu LGA of Lagos State. *Developing country studies, 4,14*.

Nwafor, S.O. & Nwafor, B.I. (2012, Sept.). Assessing the management of human resources in secondary schools by male and female principals in River state of Nigeria. *Academic Research International, 3,2,* 278 – 282.

Nwagwu, N.A. (1978). *Primary School Administration.* Lagos: Macmillan.

Nwankwo, J. I. (1982). *Educational administration: Theory and practice. New Delhi: Vikas Publishing House Ltd.*

Nwana, O.C. (1990). Introduction to educational research. Ibadan: Heinemann Educational Books Ltd.

Nworgu, B.G. (1991).*Educational research: Basic issues of methodology.* Ibadan: Wisdom Publishers Ltd.

Obadara, O.E. & Alaka, A. (2010, Sept.). Influence of resources allocation in education on secondary school students' outcome in Nigeria. *The online Journal,8,*(4).Retrieve on April 18th 2011 from file://locationhost/c:/Documents%20and%20settings/Admin /Desktop/Alhaji/influence%2..

Obanya, P. (2004). *The dynamics of secondary educational: a synthesis of studies in four states of the federation*. Washington DC: World Bank.

Ofem, B.I. (2012). A review of the criteria for defining urban areas in Nigeria. *Journal of Human Ecology, 37, 3), 167-171*.

Ogbazi, N.J. & Okpala, J. (1994).*Writing research report: A guide for education researchers in education, the social sciences and the humanities.* Enugu: Prime Time Ltd.

Ogbodo, G.M. (1995). Managing educational facilities in schools. In U.F. Peretomode,(Ed to edu). *Introduction educational administration, planning and supervision*. Lagos: Joja Educational Research and Publication Ltd.

Ogbonnaya, N.I. (2000). *Foundation of educational finance*. Onitsha: CAP Publisher.

Ojo, O.S. (2010 July). Improvisation of facilities and equipment as panacea for education and sports in the face of economic situation in Nigeria. *Journal of Science, Technology and Environmental Education. (NUOSTEE), 3,1,* 179-185.

Ojuawo, A.O. (1998). *Effects of differential distribution of resources on schools performance in WASC examination in Oyo State schools.* Unpublished Ph.D Dissertations, University of Ibadan, Ibadan.

Okobia, E.O. (2011). Availability and teachers' use of instructional materials and resources in the implementation of social studies in junior secondary schools in Edo state, Nigeria. *Review of European studies,* 3,(2). Retrieved from www.ccsenet.org/res.

Okorie, J.U. & Ezeji, S.C.O.A. (1988). *Elements of guidance, vocational and career education.* Onitsha: Summer Educational Publishers Nig. Ltd.

Okoro, O.M. (1993). *Principles and methods in vocational and technical education*. Enugu: ABIC publishers.

Okunamin, P.O. (2000). *Resources and guidelines for educational financing in tertiary institutions*. Owerri. Fasmen Education and Research Publication.

Okwori, A. (2004). *Practical approach to educational planning.* Makurdi: Aboki Publisher.

Olachukwu, E.G. (2008). Administrative practices of principals in secondary schools in Anambra State: Strategies for improvement. *Nigerian Journal of Teachers Education and Teaching,* 4, 2, 47-55.

Oladejo, M.A., Olosunde, G.R., Ojebisi, A.O. & Isola, O.M. (2011). Instructional materials and students' academic achievement in physics: some policy implications. *European Journal of Humanities and Social Sciences,* 2,1. Retrieved from: http://www.jorunals bank.com/ejhss.htm.

Oladipo, S.A. (2008). Managing educational facilities for school effectiveness in Nigeria *International journal of educational research, 8,* 28-34.

Olagboye, A.A. (2004). *Introduction to educational management in Nigeria.* Ibadan: Kemsio Educational Consultants.

Olaleye, F.O.(2013) Improving teacher performance competency through effective human resource practices in Ekiti state secondary schools. *Singaporean Journal of Business Economics and Management Studies,* 1, 11, 125-132.

Olaoye-Williams, B. (2004). Human resources development and effective instruction in primary and secondary education in Nigeria. *Journal of social sciences, a (2),* 145-148.

Olayiwola, A.O. (2007). *Procedure in educational research.* Kaduna: Hanijam Publications.

Olokooba, S.B. (2008). Impact of teacher factor on teaching science and technology: a guide for educational managers. *Journals of educational management and planning, 8,(1),* 92–96.

Olufumilayo, T.I. (2014). Availability and utilization of instructional materials in selected andragogical setting in Ogun state Nigeria. *International Journal of Humanities and Social Science,* 4,4, 268-272.

Olutola, A. (1981). School plant planning and maintenance. In S. Adesina, (Ed.). *introduction to educational planning.* Ile-Ife: University of Ife Press.

Onweh, V.E. (2003). *Instructional design for the practical component of building technology for the Nigeria certificate in education (technical) curriculum*. Unpublished Ph.D. Thesis, University of Nigeria, Nsukka.

Onweh, Y.E. (1991). Science and technology education in the past decade in Nigeria: Policy, practice and prospect. In K.A. Salami, T.A.G. Oladimeji & A.W. Ajetunmobi (Eds).*Technology in Nigeria* (pp.138-143). Lagos: Raytel.

Onyara, B.N. (2013). *School based factors influencing students academic performance at Kenya Certificate of secondary education in Teso South District*. Unpublished M.Ed Thesis, University of Nairobi, Kenya.

Osagie,R.O. & Okafor, C.J. (2012). Relationship between human resources management variables and students' academic performance in secondary schools in Egor local government area, Edo state, Nigeria. *European Journal of Educational Studies, 4*(1).

Osokoya, I. (1990). Teaching and learning an introduction to new methods and resources in education. Ibadan: Toye publishers.

Osuala, E.C. (2005). *Introduction to research methodology: The millennium edition (4th edition).* Enugu: Cheston Agency Ltd.

Osuolale, O.J. (2014). Problems of teaching and learning science in junior secondary schools in Nasarawa State, Nigeria. *Journal of Education and practice, 5, 34.*

Peretomode, V.F. (1991). *Educational administration: Applied concepts and theoretical perspectives*. Lagos: Joja Press Ltd.

Pitan, O.S. (2012). Analysis of internal efficiency in the utilization of human resources in selected secondary schools of Oyo state, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETRAPS)* 3(5),748-752.

Post, T.R. (1981). The role of manipulative materials in the learning of mathematical concept. In C.A. Barkeley. Selected issues in mathematics education (pp.109-131) National Society for the Study of Education and National Council of Teachers of Mathematics, McCutchan Publishing Corporation.

Prawat, B. (1994). *Learning how to learn by concept mapping: A worked-example effect*. Budapest, Hungary.

Prochaska–cue, K.M., Preston, S.D. & Mahar, C.J. (2007). *It's about time management simplified.* Nebguide*;* University of Nebraska, Lincoln Extension.

Rao, R.R. & Rao, D.B. (2004). *Methods of teacher training.* New Delhi: Discovery Publishing House.

Reddy, G.L. & Anuradha, R.V. (2015). *Teacher education: Certain reflections.* New Delhi: Discovery Publishing House PVT Ltd.

Robbins, P.R. & Coulter, M. (2007). *Management, (9th Ed.).* London: Pearson Education International.

Rouse, M. (2016). *Time: Tech. target*. Washington, DC. USA: National Institute of Standards and Technology.

Ruben, B. & Adetutu, A.A. (2009, Feb). Problems of teaching introductory technology education in secondary schools: (A case study of Hong LGA, Adamawa State). *Journal of Vocational and Technical Educators, (JOVTED), (1),* 91-98.

Saavedra, J. (2002). *Education financing in developing countries: levels and sources of funds.* Education Team, Human Development Group. World Bank Institute.

Sailagyi, A.D. (Jr). (1981). *Management and performance.* Santa Monica, Calif: Good Year Publishing Comp.

Salami, A.A. & Lagbe, S.I. (2007). General principles, methods, material and resources in teaching. In S.I. Saleeman, (Ed.). *Guide to federal teachers' scheme.* Ilorin: Kwara State College of Education.

Salami, A.A. (Ed.) (2008). *Principles and practice of educational technology*. Ilorin: Department of Curriculum Studies and Educational Technology, Kwara State College of Education.

Sasson, R. (n.d.) *Importance of time management*. Retrieved free online (no web address).

Schuler, R.S. & Jackson, S.E. (2006). *Human resource management: International perspective.* Manson, USA: Thomson South-Western.

Scott, R.W. (2008*). Organizations and organizing: Rational, nature, and open systems perspectives.* Upper saddle River, NZ: prentice Hall.

Senge, P. (2001). *Schools that learn.* New York: Doubleday.

Senge, P. (2006). *The fifth discipline: the art and practice of the learning organization. (3rd Ed.).* New York, NY: Currency/Double day.

Shehu, S. (Mrs). (2008). An assessment of secondary school education in Nigeria *Journal of Educational Management and Planning, 8,(1),* 134 – 140.

Singh, Y.K. (2010) *Dictionary of education.* New Delhi: A.P.H. publishing corp.

Stevens, J. (1986).*Applied multivariate statistics for social sciences*. Hillsdale, NJ: Eribaum.

Stoner, J.A.E. (1978). *Management*. New Jersey: Prentice Hall Inc.

Stonner, J.A.F. & Wankel, C. (1988). *Management, (3rd ed.).* New Delhi: Prentice- Hall of India Private Ltd.

Szilagi, A.D. (Jr.) (1981). *Management performance.* Santa-Monica, California: Good year Publishing Coy.

Taber, K.S. (2011). Constructivism as educational theory: contingency in learning and optimally guided instruction. In J. Hassakhah (Ed.) *Educational theory* (pp 39-61) New York: Nova.

Tahir, G. (2007, Jan). *The Universal basic education programme and the challenge of implementation.* Abuja: Universal Basic Education Commission (UBEC).

Thirteen Ed Online. (2004). *Constructivism as a paradigm for teaching and learning.* Retrieved from: http://www.thirteen.org/concept2class/constructivism/index.html.

Todaro, M.P. & Smith, S. C. (2009).*Economic development (8th Ed.)* New Delhi, India: Pearson Education.

U.S. Department of Education (1998, Sept). *Promising practices: New ways to improve teacher quality.* Retrieved from http://www.ed.gov/pubs/pompractice/chapters.html.

Udeozo, R.K. (2004). *Educational administration: perspectives and practice implications*. Nimo Anambra: Rex Charles and practice, Ltd.

Udey, F. U. Ebuara, V. O., Ekpoh, U. I. of Edet, A. O. (2009, August). *Management and administration of Nigerian education system: Problems, challenges and the way forward.* A paper presented at the 11th International Conference of Educational Management Association of South Africa, (EMASA).

Udoh, S.U.; Akpa, G.O. & Gang, K.P. (1990).*Theory and practice of educational administration in Nigeria.* Jos: Faculty of Education, University of Jos.

Ukeje, B.O. (1991). The education of teachers for a new social order. *Journal of Nigerian Teacher Education, 2,* 110-114.

Umar, Z. (2002). The use of resource materials in primary schools. In H.M. Mubi, & U.M. Degereji (Eds) *Reflection in action.* Yola: Education and Management Services.

Usaini, M.I. & Abubakar, N. (2015, Sept.). *The influence of school environment on academic performance of secondary school students in Kuala Terengganu, Malaysia.* Proceedings of international conference on empowering Islamic civilization in the 21st Century.

Uzoagulu, A.E. (1998). *Practical guide to writing research project reports in tertiary institutions.* Enugu: John Jacob's Classic Publishers Ltd.

Vighnarajah, Su Lan, W. & Abubakar, K. (2008) The shift in the role of teachers in learning process. *European Journal of Social Science 7,(2),* 33-41.

Websters' Encyclopedic Dictionary (2006). Springfield USA: Merriam-Western Incorporated.

Witte, A.D. & Tauchen, H. (1994). Work and crime: An exploration using panel data. *National Bureau of Economic Research Working Paper, 4794.*

What Does Cronbach's Alpha Mean? SPSS FAQ. Retrieved from https://stats.idre.ucla.edu/spss/faq/what-does-cronbachs-alpha-mean.

Wolfe, B. & Zuvekas, S. (1995). Non-market outcomes of schooling. *Institute for Research on Poverty, Discussion.* Paper, 3, 1065-95.

Yamane, T. (1967). *Statistics: An introductory analysis, (2nd Ed.)*. New York: Harper and Row.

Yara, P.O. & Otieno, K.O. (2010,Dec.) Teaching/learning resources and academic performance in Mathematics in secondary schools in Bondo district of Kenya. *Asian Social Science, 6, 12.* Retrieved from www.ccsenet.org/ass..

Yesufu, T.M. (2000). *Human factor in national development: Nigeria*. Ibadan: Spectrum Books.

Zuofa, K. (2007). Refocusing education for relevance and sustainable national development. *Knowledge review – A Multi-disciplinary Journal, 15, 2.*

APPENDIX I

QUESTIONNAIRE ON STAKEHOLDERS' PERCEPTIONS ON PROVISION AND UTILIZATION OF RESOURCES IN SECONDARY SCHOOLS IN NORTH-CENTRAL ZONE, NIGERIA

Department of Educational Foundations
and Curriculum,
Ahmadu Bello University,
Zaria.

Dear Sir/Ma,

This questionnaire is designed to examine the Stakeholders' Perceptions on Provision and Utilization of Resources for in Secondary Schools in North-Central Zone, Nigeria.

Kindly response to the questionnaire items honestly. Your responses will be treated confidentially and for the purpose of this research only.

Thanks.

Yours faithfully,

OJULARI, S.I.

Kindly put a tick at the appropriate space provided

SECTION A: PERSONAL DATA

1. Status:
   - (a) Teacher 384
   - (b) Principals/Vice Principals 388
   - (c) Officials of Ministry of Education 187
   - (d) Officials of PTA 375
   - (e) Non-Academic Staff 375 Total Respondents = 1669
2. Gender:
   - Male 1024
   - Female 645
3. Qualification
   - (a) Master's Degree 125
   - (b) Bachelor's Degree 842
   - (c) HND 116
   - (d) NCE 480
   - (e) Others – please specify …… 106 ……
4. Working Experience
   - (a) 1 – 5 years 281
   - (b) 6 – 10 years 149
   - (c) 11 – 15 years 491
   - (d) 16 – 20 years 434
   - (e) 21 and above 314
5. Location of school
   - (a) Urban 967
   - (b) Rural 702
6. Ownership of school
   - (a) Public 1215
   - (b) Private 454

Kindly put a tick at the appropriate space provided

SECTION B: Provision and Utilization of Human Resources in Secondary Schools in North-Central Zone of Nigeria

S/N	Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
7	There is adequate provision of human resources for Science subjects in secondary schools in North-Central Zone of Nigeria	108	417	140	788	216
8	There is effective utilization of human resources for Science subjects in secondary schools in North-Central Zone of Nigeria	569	829	111	140	20
9	There is adequate provision of human resources for Art subjects in secondary schools in North-Central Zone of Nigeria	79	1260	102	173	55
10	Human resources provided for Art subjects are effectively utilized in secondary schools in North-Central Zone of Nigeria	237	1196	102	99	35
11	There is adequate provision of human resources for Languages in secondary schools in North-Central Zone of Nigeria	66	1009	291	242	61
12	There is effective utilization of human resources for Languages in secondary schools in North-Central Zone of Nigeria	203	1119	118	194	35
13	Human resources are adequately provided for Mathematics in secondary schools in North-Central Zone of Nigeria.	125	741	260	460	83
14	There is effective utilization of human resources for Mathematics in secondary schools in North-Central Zone of Nigeria	299	952	207	174	37
15	There is adequate provision of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	38	219	92	751	569
16	There is effective utilization of human resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	566	499	150	339	115

SECTION C: Provision and Utilization of Material Resources in Secondary Schools in North-Central Zone of Nigeria

S/N	Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
17	There is adequate provision of material resources for Science Subjects in secondary schools in North-Central Zone of Nigeria	93	601	112	659	204
18	Material resources provided for Science subjects are effectively utilized in secondary schools in North-Central Zone of Nigeria	493	841	58	217	60
19	Material resources are adequately provided for Art subjects in secondary schools in North-Central Zone of Nigeria	139	1083	128	239	80
20	There is effective utilization of material resources for Art subjects in secondary schools in North-Central Zone of Nigeria	264	1030	92	217	66
21	There is adequate provision of material resources for Languages in secondary schools in North-Central Zone of Nigeria	127	999	222	255	66
22	Material resources provided for Languages are effectively utilized in secondary schools in North-Central Zone of Nigeria	303	987	101	210	68
23	There is adequate provision of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria	240	847	244	311	27
24	There is effective utilization of material resources for Mathematics in secondary schools in North-Central Zone of Nigeria	338	953	68	217	93
25	Material resources are adequately provided for the management of teaching and learning of Vocational and Technical subjects in secondary schools in North-Central States of Nigeria	85	168	89	716	611
26	There is effective utilization of material resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	634	434	67	412	122

SECTION D: Provision and Utilization of Financial Resources in Secondary Schools in North-Central Zone of Nigeria

S/N	Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
27	There is adequate provision of financial resources for Science Subjects in secondary schools in North-Central Zone of Nigeria	112	253	225	806	273
28	There is effective utilization of financial resources for Science subjects in secondary schools in North-Central Zone of Nigeria	516	78	257	213	605
29	Financial resources is adequately provided for Art subjects in secondary schools in North-Central Zone of Nigeria	65	624	235	532	213
30	There is effective utilization of financial resources for Art subjects in secondary schools in North-Central Zone of Nigeria	413	865	126	198	67
31	There is adequate provision of financial resources for Languages in secondary schools in North-Central Zone of Nigeria	76	565	386	419	223
32	Financial resources provided for Languages are effectively utilized in secondary schools in North-Central Zone of Nigeria	146	261	394	822	46
33	Financial resources is adequately provided for Mathematics in secondary schools in North-Central Zone of Nigeria	399	425	109	546	190
34	There is effective utilization of financial resources for Mathematics in secondary schools in North-Central Zone of Nigeria	394	201	740	249	85
35	Financial resources is adequately provided for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	43	176	127	829	494
36	There is effective utilization of financial resources for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria	559	466	117	419	108

SECTION E: Provision and Utilization of Time Resource in Secondary Schools in North-Central Zone of Nigeria

S/N	Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
37	There is adequate provision of time for Science subjects in secondary schools in North-Central Zone of Nigeria	171	1128	133	182	55
38	Time allocated for Science subjects is effectively utilized in secondary schools in North-Central Zone of Nigeria	447	882	142	136	62
39	There is adequate provision of time for Art subjects in secondary schools in North-Central Zone of Nigeria	176	1207	103	108	75
40	There is effective utilization of time allocated for Art subjects in secondary schools in North-Central Zone of Nigeria	512	867	106	101	83
41	Time allocated for Languages is adequate in secondary schools in North-Central States of Nigeria	198	971	177	241	82
42	There is effective utilization of time allocated for Languages in secondary schools in North-Central Zone of Nigeria	525	769	170	143	62
43	There is adequate provision of time for Mathematics in secondary schools in North-Central Zone of Nigeria	213	892	219	255	90
44	There is effective utilization of time allocated for Mathematics in secondary schools in North-Central Zone of Nigeria	439	830	182	135	83
45	Time allocated for Vocational and Technical subjects is quite adequate in secondary schools in North-Central Zone of Nigeria	117	721	244	391	196
46	There is effective utilization of time allocated for Vocational and Technical subjects in secondary schools in North-Central Zone of Nigeria.	544	531	142	335	117

APPENDIX II

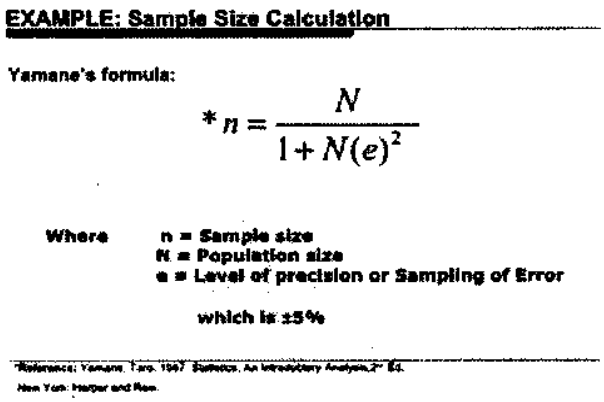
How To Calculate Sample Size Using Taro Yamani Formula - ONLINE DAILYS

The Taro Yamani formula is a very popular formula used in writing academic research works. When given a research work that involves a large number of people i.e population, it is usually impossible to meet one on one with all of them. This gives rise to the need of selecting a sample size that would represent the whole population. The Taro Yamani formula is the most appropriate formula to use. Unfortunately, many people do not know How To Calculate Sample Size Using Taro Yamani Formula.

We will give you a detailed but easy to comprehend guide on How To Calculate Sample Size Using Taro Yamani Formula. The Taro Yamani formula is quite easy unlike what some think. So, we will make the process easy for you to understand and you will be glad you read this today. Let's move on.

Before we proceed, it's important to let us know that the formula was developed by Taro Yamani. Many research works and scholars call him "Yaro Yamani". But, that is wrong. His name is known and called as Taro Yamani.

Below is the Taro Yamani formula:



- n= N/1+N(e)^2. When explained in words, it means "n" equal to (n=) "N" all over "1+N bracket" "e" squared.

Please note the following:

- n = Sample
- N = Total population of the area under study

- 1 = 1 is constant

- e = error limit or margin of error. It's usually accepted at 5% or 0.05.

As we pointed out earlier, the sample size is very crucial in researches that solicit primary data through the use of questionnaires. The sample size is simply the select number of people that can be issued the question instead of the whole population.

Also See: Top Employee Skills And Values Needed By Employers

How Does It Work?

Since we've seen that the Taro Yamani formula is $n= N/1+N(e)^2$, let's see how it works using an example.

If you were to determine the sample size of Abakaliki LGA area with an estimated population of 198,265 people. Here is how to go about it.

- n= N/1+N(e) So, here we have the following:

- n= 198265/1+198265(0.05)

- Next step. n=198265/1+198265(0.0025)

- Next, n=198265/1+495.6625

- n= 198265/496.6625

- n= 399.19462412

- Finally, by approximation, n (which is the sample size) is 399. The questionanaires must then be shared to 399 persons out of the total population.

Also See: Career Choices For Political Science Graduates

Was this guide on How To Calculate Sample Size Using Taro Yamani Formula helpful? Share your thoughts with us in the comment box below. Thank you.

APPENDIX III

WHAT DOES CRONBACH'S ALPHA MEAN? | SPSS FAQ

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test – it is a coefficient of reliability (or consistency).

Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items. Below, for conceptual purposes, we show the formula for the standardized Cronbach's alpha:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Here N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance.

One can see from this formula that if you increase the number of items, you increase Cronbach's alpha. Additionally, if the average inter-item correlation is low, alpha will be low. As the average inter-item correlation increases, Cronbach's alpha increases as well (holding the number of items constant).

An example

Let's work through an example of how to compute Cronbach's alpha using SPSS,

and how to check the dimensionality of the scale using factor analysis. For this example, we will use a dataset that contains four test items – **q1**, **q2**, **q3** and **q4**. You can download the dataset by clicking on https://stats.idre.ucla.edu/wp-content/uploads/2016/02/alpha.sav (https://stats.idre.ucla.edu/wp-content/uploads/2016/02/alpha.sav). To compute Cronbach's alpha for all four items – **q1, q2, q3, q4** – use the **reliability** command:

```
RELIABILITY
  /VARIABLES=q1 q2 q3 q4.
```

Here is the resulting output from the above syntax:

Reliability

```
[DataSet2] D:\documents\spss--alpha_faq\spss_faq.sav
```

Warnings

No SCALE subcommand was found. Scaling will be done on all specified variables.

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	60	100.0
	Excluded[a]	0	0
	Total	60	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	4

The alpha coefficient for the four items is .839, suggesting that the items have relatively high internal consistency. (Note that a reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations.)

In addition to computing the alpha coefficient of reliability, we might also want to investigate the dimensionality of the scale. We can use the **factor** command to do this:

```
FACTOR
 /VARIABLES q1 q2 q3 q4
 /FORMAT SORT BLANK(.35).
```

Here is the resulting output from the above syntax:

Factor Analysis

Communalities

	Initial	Extraction
q1	1.000	.585
q2	1.000	.721
q3	1.000	.685
q4	1.000	.714

Extraction Method: Principal Component Analysis

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.706	67.654	67.654	2.706	67.654	67.654
2	.541	13.531	81.185			
3	.400	10.006	91.191			
4	.352	8.809	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
q2	.849
q4	.845
q3	.828
q1	.765

Extraction Method: Principal Component Analysis

a. 1 components extracted.

Looking at the table labeled Total Variance Explained, we see that the eigen value for the first factor is quite a bit larger than the eigen value for the next factor (2.7 versus 0.54). Additionally, the first factor accounts for 67% of the total variance. This suggests that the scale items are unidimensional.

For more information

- For more information about reading data in SPSS, see the SPSS Command Syntax Reference.
- For more information on Cronbach's Alpha, see SPSS Library: My Coefficient Alpha is Negative! (/spss/library/how-negative-reliability-coefficients-can-occur/)
- For more information about intraclass coefficients as a measure of reliability, see SPSS Library: Choosing an Intraclass Correlation Coefficient. (/spss/library/spss-library-choosing-an-intraclass-correlation-coefficient/)

Click here to report an error on this page or leave a comment

How to cite this page (https://stats.idre.ucla.edu/other/mult-pkg/faq/general/faq-how-do-i-cite-web-pages-and-programs-from-the-ucla-statistical-consulting-group/)