

**RESOURCE QUALITY AND SERVICE DELIVERY  
IN SELECTED UNIVERSITIES IN SOUTH EAST  
NIGERIA**

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**CERTIFICATION**

This is to certify that the thesis:

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By

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## **DEDICATION**

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## TABLE OF CONTENT

	Page
TITLE PAGE	
CERTIFICATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
TABLE OF CONTENT .....	vi
LIST OF TABLES .....	x
LIST OF FIGURES .....	xii
LIST OF APPENDICES .....	xiii
ABSTRACT .....	xiv
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
Background to the Study .....	1
Statement of the Problem .....	9
Research Objectives .....	11
Research Questions .....	12
Research Hypotheses .....	13
Significance of the Study .....	14
Scope and Delimitation of the Study .....	15
Operational Definition of Terms .....	15
<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>18</b>
Introduction .....	18
The Concept of Quality .....	18
Quality in Education .....	19

Factors Affecting Quality University Education.....	20
Overview of the Quality Management System (QMS) .....	23
The concept of Total Quality Management (TQM) .....	25
Quality Assurance in Nigerian Universities .....	27
The Quality Assurance Process .....	30
External Quality Assurance Mechanisms in University Education .....	31
Institutional Ranking by Performance of Undergraduate Courses and Programmes .....	36
Internal Quality Assurance Mechanism in University Education .....	39
Qualitative Resourcing and University Productivity in Nigeria Education .....	41
The Concept of Human Resources .....	42
Human Resource Utilization in Nigerian Universities.....	44
Physical/Material Resources and Teaching Effectiveness .....	49
Funding and University Education in Nigeria.....	55
Trends in Expenditure in Nigerian University Education .....	57
The Place of University Education in the National Policy on Education: Implications for National Development .....	60
The Concept of Service Delivery .....	61
Nigerian Universities and Service Delivery .....	62
Teaching and Teaching Effectiveness .....	63
The Concept of Research.....	64
The State of Research Output in Nigerian Universities .....	65
Academic Staff Professional Development and Teaching Efficiency .....	69
Information Communication Technology (ICT) and Lecturers' Efficiency .....	74
Teachers' Remunerations/Incentives and Research Output.....	79
Constraints to Developing Performance Indicators in Tertiary Education .....	83

Review of Empirically Related Studies.....	87
Theoretical Framework .....	92
The Social Systems Theory .....	92
Basic Characteristics of an Open System.....	95
Total Quality Management (TQM) Principles and Its Application to Education .....	98
The Total Quality Management (TQM) and Education .....	102
The Principle of Synergistic Relationships .....	102
Continuous Improvement and Self-Evaluation .....	103
Social System Theory Service Delivery and Quality Assurance .....	104
Conceptual Framework .....	105
Summary of Literature .....	108
 <b>CHAPTER THREE: RESEARCH METHODOLOGY.....</b>	<b>110</b>
Introduction .....	110
Variables of the Study .....	110
Research Design .....	110
Population of the Study .....	111
Sample and Sampling Procedure.....	112
Instrumentation.....	113
Validity of the Research Instruments .....	114
Reliability of the Research Instruments .....	114
Procedure for Data Collection .....	115
Data Scoring System .....	115
Method of Data Analysis.....	116



**CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION OF  
RESULTS AND SUMMARY OF FINDINGS.....117**

Introduction .....	117
Data Analysis.....	118
Analysis of Research Questions .....	120
Results of Tested Hypotheses.....	134
Summary of Findings .....	139

**CHAPTER FIVE: DISCUSSION OF FINDINGS, IMPLICATIONS,  
CONCLUSION AND RECOMMENDATIONS .....141**

Introduction .....	141
Discussion of Findings .....	141
Implications of the Findings for Educational Policy.....	155
Implications of Findings for Practice .....	157
Contributions to Knowledge .....	158
Recommendations .....	159
Conclusion.....	161
Suggestions for Further Research.....	161
References .....	163

## LIST OF TABLES

Table	Page
Table 1: University Programme Accreditation Results 1990 - 2007 .....	35
Table 2: Ranking of Nigerian Universities by the mean quality of the first degree programmes of each of them. ....	37
Table 3: The number of Lecturers, Students Enrolment, and Teacher/ Student Ratio in Nigerian Universities 2000 – 2005.....	47
Table 4: Education Sector share of the Federal Budget 1996 – 2003 (in ₦' Millions) .....	57
Table 5: Illustrative indicators commonly in use at national, institutional, department and individual levels. Chalmers (2008).....	86
Table 6: State and Federal Universities in South East Nigeria .....	111
Table 7: Sampled Institutions, Lecturers and Students by 2009/2010 Academic Session.....	112
Table 8: Scoring of the Data in SQEQ and LQEQ.....	115
Table 9: Demographic Characteristics of the Students .....	118
Table 10: Demographic Characteristics of the Sampled Lecturers .....	119
Table 11: Results of 2009/2010 Accreditation Exercise in Selected Universities in South East Nigeria .....	121
Table 12: Federal Universities - UNN and NAU 2009/2010 Academic Year .....	122
Table 13: State Universities - ESUT and ABSU 2009/2010 Academic Year .....	122
Table 14: Adequacy of Classroom Communication Materials and Teaching Effectiveness (N=2050).....	123

Table 15: Adequacy and Conduciveness of Physical Facilities for Teaching Effectiveness (N=2050).....	125
Table 16: Perception of Students on number of Lecturers and teaching effectiveness (N=2050) .....	127
Table 17: Lecturers' Perception of their Professional Development and the Institution's Research Output (N=550) .....	129
Table 18: Lecturer ICT Compliance, Research Activity and Output (N=550) .....	131
Table 19: Lecturers' Remuneration and Research Output(N=550) .....	133
Table 20: Classroom Communication Materials and Teaching Effectiveness .....	135
Table 21: Quality of Physical Facilities and Teaching Effectiveness .....	135
Table 22: Lecturers' Strength and Teaching Effectiveness.....	136
Table 23: Academic Staff Professional Development and Research Output .....	137
Table 24: Lecturers' ICT Compliance and Research Output .....	137
Table 25: Lecturers' remunerations/Incentives and Research Activity .....	138

## LIST OF FIGURES

Figure	Page
Figure 1: A Conceptual Framework of Professional Development and Lecturer's Performance .....	73
Figure 2: Basic Open System .....	97
Figure 3: An Integrated Model of Resource Quality, Service Delivery and Quality Assurance .....	105

## **LIST OF APPENDICES**

<b>Appendix</b>	<b>Page</b>
Appendix I: Students' Quality Evaluation Questionnaire (SQEQ) .....	177
Appendix II: Lecturers' Quality Evaluation Questionnaire (LQEQ).....	182

## ABSTRACT

*The study examined resource quality and service delivery in four universities in South East Nigeria by ascertaining their accreditation status as well as the teacher-student ratios by various programmes taught in those institutions. It also examined the availability and adequacy of classroom communication materials; physical facilities as well as the number of lecturers in relation to teaching effectiveness. Furthermore, the study also ascertained how lecturers' professional development, their remuneration and level of ICT compliance enhanced their research involvement and output. The target population for the study was eight (8) universities in South East established on and before year 2000. The descriptive survey research design was adopted. Simple random sampling technique was employed to select 574 (20%) out of the 2,871 lecturers and 2,384 (20%) out of 11,920 students. Four universities were selected for the study, using stratified random sampling technique. Two types of structured instruments were used to collect data, namely the Lecturers' Quality Evaluation Questionnaire (LQEQ) and the Students' Quality Evaluation Questionnaire (SQEQ). These instruments were validated and pilot-tested to certify their reliability. The research questions were answered using descriptive statistics. The research hypotheses were tested with inferential statistics of Pearson's Product Moment Correlation. Among the findings of the study were, that out of 27 programmes accredited by NUC in 2009/2010 academic session, eleven (40.7%) received full accreditation status; thirteen (48.1%) had interim accreditation while three (11.3%) did not get such approval; that the existing lecturer-student ratios in most of the academic programmes including staff strength were found not to follow Minimum Academic Standard (MAS) guidelines; available classroom communication materials and physical facilities were found not adequate for effective teaching of all courses; the teaching stock in the department was inadequate for the courses taught; regular attendance of lecturers at conferences, seminars and workshops and their level of ICT compliance enhanced research activity and output; lecturers' remunerations/incentives also enhanced research activities. It is recommended among others that government and university management should make efforts to ensure quality education in the universities.*

# **CHAPTER ONE**

## **INTRODUCTION**

### **Background to the Study**

Education is a means of fostering economic growth and socio-political development. From a global perspective, economic and social developments are increasingly driven by the advancement and application of knowledge. Education in general and university education in particular, are fundamental to the construction of a knowledge economy and society in all nations (World Bank, 1999). A University is a specialized institution where high-level human resources, skills, knowledge and ideas are produced to generate sustained development all over the world. The National Policy on Education (FRN, 2004), promises that university education “shall make optimum contribution to national development by intensifying and diversifying its programmes for the development of high level manpower within the context of the needs of the nation.” It is believed that university education has the capacity to inculcate the appropriate skills and values orientation into the individuals and to enable him to understand his environment and develop into a useful member of the society.

The kind of education which universities are expected to provide include that which meets the needs of the national economy and those of the local communities in which such universities are located (FRN, 2004). These institutions pursue these goals through teaching, research and development,

information discovery, dissemination of knowledge and community service. Sanda (1992) reports that the goals of education are pursued with a view to satisfying the goals of manpower development for the wider society, skills development for its individual students and production of cultured individuals with survival value-orientations, as well as an objective view of society.

The first higher institution in Nigeria was established in 1948. The institution was then known as University College, Ibadan and was operated as a campus of the University of London. The report of the Ashby Commission titled “Investment in Education,” led to the establishment of the first generation of higher institutions (also called Ashby Institutions in Nigeria.) These are University of Nigeria, Nsukka (1960); the University of Ibadan (up graded to a full fledged university) in 1962; Ahmadu Bello University, Zaria (1962); the University of Ife, now Obafemi Awolowo University (1962); and the University of Lagos (1962).

Shehu (2005) asserts that the first generation of higher institution in Nigeria, like many of their counterparts in other African countries witnessed economic buoyancy. They embraced much of the country’s research capacity and produced most of her skilled professionals. They were few in number and small in enrollment size and their financial requirements were moderate. The universities were autonomously managed by their various governing councils. University teachers in those years were among the highest paid in Nigerian society. They



enjoyed exquisite perquisites of academic life such as unrestricted access to research exercises with other intellectual development facilities locally and internationally. The quality of their graduates was of international standard. These institutions were indeed, centres of academic excellence. By 1980, Nigeria had established a well regarded higher education system providing instruction at an international standard in a number of disciplines. According to Saint, Harnett and Strassner (2005), the University of Ibadan and Ahmadu Bello University earned global recognition for researches in tropical health and agriculture respectively. This implies that university education in Nigeria, met the national goal of manpower development as well as the development of cultured citizens who could function as leaders in the society. No wonder, Shehu further accentuated that such was the era of Donnish Intellectual Ambience – the beginning, and regrettably, the peak of Ivory Tower Syndrome in Nigeria!

Rapid expansion in number and enrolment into university education occurred from 1975 to the present time, despite a notable decline in the economic fortunes of the government. Today, it is not only traditional to categorize universities into first, second and third generation institutions but also into federal, state and private universities. As at the time of this study, Nigeria had 117 universities, 36 federal, 36 states and 45 private (NUC, 2011). Nigeria therefore possesses the largest number of universities in Sub-Saharan Africa (Materu, 2007). The total student population of Nigerian Universities has grown from 1, 395 in 1960 to 40, 000 in 1976, and to 172, 000 in 1988. By the year 2000, the population stood at

448, 230 (Uvah, 2005). National Universities Commission (NUC) reported in 2006 that the students enrolment in Nigerian Universities has grown by 1, 200 per cent between October 1999 and March 2006. As at 2007, the total students' enrolment stood at 1, 096, 312 while the staff strength was 99, 464 comprising 27, 394 lecturers and 72, 070 non-academic staff, (Okojie, 2008). This increase affected the quality of university education because the number of students then exceeded the available facilities while the staff-student ratio increased beyond manageable proportions.

The importance of quality education in nation building cannot be over emphasized. The Federal Ministry of Education (FRN, 2003) reported that university education performed its role as an instrument of national development creditably from the colonial era up to the 1970s, before quality and standard challenges became very pronounced in the 1980s because government embarked on the expansion of the university system without corresponding resource provision.

One believes that quality education in every nation depends on the availability and adequacy of four fundamental resources namely: the human, the physical, the material, and financial resources. This is why the proponent of human capital theory insists that human resources are the most important of all global resources. Implicitly, the infrastructure and facilities will be of no relevance without the right types of human-beings who will use them. The achievement of the school is recognized by the quality of instruction given to the students as

well as the output produced in form of graduates and these are carried out by qualified human efforts. Human resources in Nigerian universities comprise of lecturers, non-lecturers or support staff members and the students. Ejiogu (1990) stated that the quality of education in any given society depends considerably on the number and quality of personnel who are educators. Supporting this view, Jennifer (2003) posited that teacher quality is the most important school-related factor that tends to influence students achievements.

Quality of teaching stock makes the evidence in their research output and service delivery hence the Nigeria Policy on Education (FRN, 2004) insists that the teacher is the major determinant of education quality when it states that “no education system can rise above the quality of its teachers”. To attain internal efficiency and effectiveness, adequate quality and quantity of human resources, physical material and financial resources are therefore required.

For the provision and maintenance of these resources, the crucial role of financial adequacy cannot be overemphasized. Funding has remained a major issue in the Nigerian education system over the years. Measures to promote university education and improve the quality to meet the challenges of a constantly changing environment are often constrained by under-funding and inadequate financial resources among other factors (Banjo 1991; Ajani 1999; Nwaka 2000 and Akinkugbe, 2001). Nigerian universities suffered a progressive erosion in the purchasing power of their budget. Figures from the Federal

Ministry of Education seems to indicate that this has been on the downward trend since the mid 1980s even as enrolment increases. The amount of money Nigeria devotes to education is far lower than the 26% of government expenditure recommended by United Nation Education, Scientific and Cultural Organisations (UNESCO). The expansion of the universities in Nigeria without adequate funding according to the NUC report of 1994 has resulted in problems such as the breakdown and deterioration of facilities, shortages of new books and current journals in the libraries, supplies of laboratories, limited funding for research, to mention but a few.

Quality education is a fundamental necessity for all people in today's World. This was declared in Jomtien 1990 and reaffirmed at the World Education forum, Dakar 2000. The world conference on higher education held in 1998 by UNESCO also recognized the need for internal self-evaluation and external mechanism for promoting quality in higher education, hence, there will always be the need for quality assurance in higher education because of the global demand for it and the desire of all countries of the world to produce high-level human resources that will serve as agents of nation development. Quality assurance in higher education ought to cover all its functions and activities, teaching and academic programmes, research and scholarships, staffing, students, building facilities, equipment, services to the community and academic environment. The need for effective quality assurance mechanisms is necessary because of the importance attached to university education as a driver of growth and development on one hand and also as a result of the challenges of

globalization. This strategy involves the selection of inputs (students and resources) into the school set up for processing in order to realize desirable outputs that are the products of the institutions.

The World Bank (2002) supports the development of quality higher education through the provision of enabling policy and regulatory framework. Government should encourage the development and expansion of both public and private institutions, set minimum quality requirement, and enact intellectual property right legislation.

The Federal Government of Nigeria has established institutions to give quality education at various levels to her citizenry. At the university level, the National Universities Commission (NUC) performs a major role by carrying out the external quality assurance process while the professional bodies on the other hand perform equally important roles. The NUC is vested with the responsibility of running University Education. Act I of 1974 gave statutory mandate to NUC in this regard. Furthermore, Act 16 of 1985 empowers the commission to draw up Minimum Academic Standards for all academic programmes and courses, and accredit degrees and other academic awards of Nigerian Universities. This is to ensure that certain minimum level of competency is attained by graduates in any particular discipline at the end of their training. Thus, quality university education, should examine the efficiency and effectiveness of administration, teaching, learning and research. The internal institutional mechanisms or self-assessment factors uses the process of internal self evaluation, maintenance and promotion of quality within the university by the university management. These

are carried out using such tools as faculty academic board reviews; appointment of internal examiners and assessors; review of programmes and courses; and enforcement of minimum academic standards. The external quality regulatory mechanism in Nigeria include processes leading to the establishment of universities and their programmes; others include: accreditation; admission of qualified candidates; teaching manpower; quality of programmes; of instructional delivery; entry requirements; facilities/equipment/basic infrastructure; course contents; mode of assessment; and university carrying capacity. (Adeyemi and Osunde 2005)

The Joint Admission and Matriculation Board (JAMB) is another quality assurance agency established by Act 2 of 1978 (as amended by Act 33 of 1999) with the oversight function of regulating the admission of students into the universities, taking cognizance of available spaces and federal equity. According to Adeogun (2002) JAMB was established to remove wastages of resources arising from multiple admissions, as these tend to deprive some others, of university admission. The roles of JAMB in quality assurance include:

- ensuring high quality matriculation examinations so that only those that are adequately prepared to benefit from university education will gain admission into the institutions; and
- ensuring high quality of administration of examination to minimize the exploits of cheats toward ensuring the good quality of new entrants to the universities.

Onyene (2004) succinctly noted that JAMB has not been able to solve the quality problem as it gives the federal government the remote control of university in takes while the university senate has no hand in determining who comes into the system but only to accept whoever is sent to them. Thus, the professionals become marginalized from decisions that affect their daily functions. Consequently, the government recently introduced university-gate interview called UMTE screening test. This serves as an additional quality assurance mechanism to ensure that only qualified candidates gain admission into Nigerian universities.

For any institution to be relevant in the global village, its contributions to knowledge must conform with internationally accepted standards. University institutions in Nigeria and the government have put in place some quality assurance mechanisms/strategies to ensure that university education is actually adopted as an instrument for effective socio-economic and political development. Inspite of all these efforts of Government, Ministries, Departments and Agencies (MDAs), concern has been raised about the decline in the quality of education offered in Nigerian universities.

### **Statement of the Problem**

In recent time, much concern has been raised about the decline in the quality of university education offered in Nigeria. Oguntoye (2000) argues that our education has for long, concerned itself with quantitative expansion with less concern for qualitative improvement. Policy makers are more concerned with the

number educated and number graduating rather than with the quality of graduates. Egwu (2006) reported that a survey of the best universities in Africa featured only the University of Ibadan (the best in Nigeria) at the 60<sup>th</sup> position, while it was rated the 7000<sup>th</sup> University in the world.

Similarly, graduates unemployment is very high as employers of labour complain that they are poorly prepared for the world of work. Many employers of labour, believe that academic standards are falling considerably over the past decade and that a university degree is no longer a guarantee for mastery of communicative skills and technical competence. The result is that university graduates are commonly viewed as ‘half baked’ (Dabelen, Oni and Adekola 2000). They further posited that graduates who do not fit into the needs of the society are produced by institutions who “garbage in and garbage out” (gigo syndrome). There appear to be a large mismatch between university output and labour market demand. It does not need a professional statistician to convince anyone of the volatility of the graduate unemployment phenomenon in any country of the world, particularly in Nigeria where a former governor of the Central Bank of Nigeria casually told the world that over 75% of Nigerian graduates are “unemployable”. Okebukola (2006) identifies the factors responsible for the decline in quality as over enrollment, dilapidated structures, obsolete equipment, inadequate funding, admission of poor quality students and inadequate quantity and quality of lecturers.



This study made an in-road into the quality of university education as an economic good and service rendered. It probed into the qualitative level of resources in the target universities and their service delivery in terms of teaching effectiveness and research output. In doing this, the study examined the accreditation status and teacher-student ratios in the various academic programmes offered in these institutions, as well as the number of lecturers. Also investigated was the adequacy of classroom communication materials/physical facilities and teaching effectiveness, as well as lecturers' professional development and ICT compliance as they enhanced research output and publications.

### **Research Objectives**

The purpose of the study was to examine the relationship between the quality level of resources and service delivery in selected universities in South East Nigeria.

Specifically, the objectives of this study are:

1. To examine the extent to which selected universities in South East Nigeria conform with the NUC's minimum academic standard, measured in terms of their accreditation results.
2. To assess the existing lecturer-student ratios of the various academic programmes in universities in south east and their level of conformity with NUC guidelines.

3. To examine the relationship between adequate provision of classroom communication materials and teaching effectiveness.
4. To ascertain the relationship between adequacy and conduciveness of physical facilities and effective teaching.
5. To determine the relationship between the provision of adequate number of lecturers and teaching effectiveness.
6. To assess the relationship between lecturers' professional development and their research output.
7. To examine the relationship between lecturers' level of ICT compliance and their research output.
8. To assess the relationship between the level of incentives and remuneration provided for lecturers and their research output.

### **Research Questions**

The following questions were raised to guide the study:

1. To what extent do Universities in South East Nigeria conform with the NUC's Minimum Academic Standard tone measured in terms of their accreditation results?
2. To what extent do the existing lecturer-student ratios in the various academic programmes conform with the NUC guidelines?
3. How adequate are the classroom communication materials (projector, public address systems, ICT facilities) for effective teaching in universities in South East Nigeria?

4. How adequate and conducive are the available physical facilities for effective teaching in South-East universities?
5. What is the relationship between the provision of adequate number of lecturers and teaching effectiveness?
6. To what extent does professional development of lecturers in the south-East universities enhance their institutional research output?
7. What is the level of ICT compliance among the lecturers in the universities in south East Nigeria?
8. What relationship exists between level of incentives and remuneration provided for lecturers and their research efforts in the selected universities in South East Nigeria?

### **Research Hypotheses**

The following hypotheses were formulated for the study.

- Ho<sub>1</sub>: There is no significant relationship between classroom communication materials and teaching effectiveness.
- Ho<sub>2</sub>: Provision of quality physical facilities and teaching effectiveness are not significantly related.
- Ho<sub>3</sub>: There is no significant relationship between provision of adequate number of lecturers and teaching effectiveness.
- Ho<sub>4</sub>: Relationship between academic staff professional development and research output is not significant.
- Ho<sub>5</sub>: There is no significant relationship between lecturers' level of ICT compliance and their research output.

Ho<sub>6</sub>: The level of remunerations and incentives given to lecturers and their research output are not significantly related.

### **Significance of the Study**

An academic exploration into resource quality and service delivery in universities in South East Nigeria is a vital tool for evaluating the extent of adherence or conformity to laid down standards. The study determines students' perception about the quality of educational services, offered in their institutions, as well as the performances and challenges of these institutions in achieving the goals of education. It also contributes significantly to the existing literature on quality assurance in higher education in Nigeria.

The findings provide an insight into the adequacy and conduciveness of the available physical and material resources in universities in South East Nigeria as well as the quality of personnel. The information will be of immense practical help to the government policy makers/relevant educational agencies or commissions e.g. Federal and State Ministries of Education, the Nigerian Educational Research and Development Council (NERDC) and National Universities Commission (NUC) in evolving policies that would enhance adequate quality assurance mechanisms in university education. The universities will benefit from the findings of this study. Moreover, academic researchers would use the findings of this study as a basis for further applied studies in the area.

## **Scope and Delimitation of the Study**

The study focuses on lecturers and final year students in federal and state universities in south east Nigeria. Specifically, there are three federal and five state owned universities in that region. Familiarity of the terrain might have played a part in this researcher's choice of south east as the area of study. The main reason however is that in the recent past this geographical zone has experienced backwardness educationally because of their merchandise enthusiasm where every man is into one form of buying or selling, many without education are into one political pursuit or the other. The study focuses on quality of human, material and physical resources in teaching and research services. In other words financial resource as an input is controlled from this study since it is generically affecting every other zone in Nigeria. Lastly, only the final year students were used for the study, as they are more familiar with the values and ethos of their institutions. Their perception was used to measure teaching effectiveness. Research findings by Theall and Franklin, (2001), Berk (2005) and Sajjah (2010) revealed that students are the most qualified sources to report on the extent to which the learning experience was productive, informative, satisfying, or worthwhile... there is substantial research linking student satisfaction to effective teaching.

## **Operational Definition of Terms**

The following terms are hereby defined as they are used in this study.

**Quality:** This refers to meeting set standards or meeting customers' (students) expectations.

***Teacher- Student ratios:*** These refer to class sizes which are the number of students per number of teachers in a department/faculty.

***Classroom communication materials:*** These refer to material resources used to enrich classroom teaching in order to effect changes in teaching and learning, thereby improving teaching effectiveness e.g. projectors, public address system, ICT facilities and other instructional materials.

***Teaching effectiveness:*** This is determined by students' perception of lecturers' mastery or knowledge of the subject matter, preparation and organisation of lectures, clarity of presentation or communication, enthusiasm and ability to stimulate students' thoughts and interests.

***Physical facilities:*** These refer to physical resources which include classroom blocks, library facilities, hostels, laboratories, equipment and workshops.

***Lecturers' professional development:*** This is an ongoing process of education, training and learning engaged in by the lecturers of universities through seminars, conferences and workshops in order to improve their efficiency in the performance of their roles of teaching, research and community services.

***Information Communication Technology (ICT):*** This refers to technologies used for collecting storing, editing and passing on information for improving efficiency in the educational process.

***Lecturers' ICT compliance:*** This is the level of competence of the lecturers in ICT.

***Total Quality Management (TQM):*** This is a management approach in which all the facets of an organisation are considered such as material, personnel, funding, management behaviour, employee behaviour or performance and stakeholders' involvement.

***Services:*** These are functions or roles performed by the university in the areas of teaching, research and community services.

***Service Delivery:*** This is the ability or capability of a university to perform its services effectively and efficiently in order to achieve their goals and objectives.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **Introduction**

This chapter reviews literature on resource quality and service delivery in selected universities in south-east Nigeria, under the following headings: the concept of quality; quality in university education; the quality management system; qualitative resourcing and university productivity in Nigerian education; human resource utilization; trends in the production of university lecturers, students' enrolment and teacher-student ratios; physical/ material resources and teaching effectiveness; funding of university education; the concept of service delivery; roles of university education; lecturers' professional development and research output; lecturers ICT compliance and research output; lecturers' remunerations/incentives and research output; and finally, problems of developing performance indicators in tertiary education.

#### **The Concept of Quality**

Quality means different things to different people. A search for the definition of this concept yielded inconsistent results. Described as “the single most important force leading to the economic growth of companies in international markets”, Feigenbaum (1982) asserts that quality is a multidimensional concept which has been contemplated throughout history and continues to be a topic of intense interest today. As cited in Reeves and Bedner (1994), the concept has been variously defined as value, conformance to specifications, conformance to



requirements, fitness for use, loss avoidance, and meeting and/or exceeding customers' expectations. Harvey and Green's diary (as cited in Ejiogu, 2011) identifies five categories or ways of thinking about quality namely: exceptional (excellence); perfection (zero defect); fitness for purpose (as specified by customers); value for money (efficient/effectiveness); and transformation (enhancement).

There is no universal, or all-encompassing definition of quality. Each quality definition has its strengths and weaknesses. For the purpose of this study, quality can be defined as the degree or extent of excellence of service delivery in university education. In University education service, students are the primary customers while the lecturers can be viewed as intermediate customers as well as service providers.

### **Quality in Education**

Quality in Education is a concept which is rapidly evolving over time but has also different emphases according to different national education systems, cultures and the players in the system including students, teachers, policymakers, the business and staff unions.

According to Coombs (1995), one of the earliest commentators in this area, "Qualitative dimension means much more than the quality of education as customarily defined and judged by student learning achievements, in terms of traditional curriculum and standards. Quality also pertains to the relevance of

what is taught and learned - to how well it fits the present and future needs of the particular learners in question, given their particular circumstances and prospects. It also refers to significant changes in the educational system itself, in the nature of its inputs (students, teachers, facilities, equipment and supplies); its objectives, curriculum and educational technologies; and its socio economic, cultural and political environment”.

According to UNESCO, quality in higher education is a multidimensional concept which should embrace all functions and activities of a university, including, teaching, academic programmes, research and scholarship, staffing, students, building, facilities, equipment, services to the community and the academic environment. Materu (2007), opined that quality implies a relative measure of inputs, process, outputs or learning outcomes. The quality of university graduates could be measured by how well they have been prepared for life and for service to society in various spheres of human endeavour. It may also be considered on the basis of how good and efficient the teachers are, how adequate and accessible the facilities and materials needed for effective teaching and learning are, and how prepared the graduates are for meeting the challenges of life and for solving the problems of society.

### **Factors Affecting Quality University Education**

Nigeria is known to be one of the poorest countries in the world. In spite of robust endowment in natural and human resources, her poverty rate increased from 27% in 1980 to about 70% by 1996. By 1999 it was estimated that more

than 70% of Nigerians could not meet their basic needs. In spite of the efforts of the government to reduce poverty between 2004 and now, more than half of Nigerian population are still poor.

Higher institutions especially the universities rely mostly on the government for funding. The low per capita income of most Nigerians also affected the government funding ability of these institutions. Funding university education has been a chronic problem on which several scholars have commented. (Akinkugbe, 2001 and Shehu, 2005). Under funding and inadequate financial resources among other factors are the major constraints to quality university education in Nigeria.

This argument is in line with the views of Mohammed and Gbenu's diary (as cited in Babalola, 2007) who assert that under funding is the major hindrance to the development of the nation's university sector and by extension to national development. They further accentuate that there exists a correlation between under funding of universities in Nigeria and national development.

Another factor militating against quality university education, according to Mbakwem and Okeke (2007), is population explosion. Large number of students competes over limited resources of equipment, classroom, examination halls, seats and other facilities. This situation promotes examination misconduct, and poor learning environment. To remedy this, they proposed that provision of adequate computers, proper networking and internet connectivity will give learners ample opportunity to work, interact, through e-learning and be more productive.

Other contributory factors to the decline of quality in university education are, leadership, indiscipline and subversion of autonomy, which lead to the erosion of academic freedom (Akinkugbe, 2001). These had eroded the powers of the universities and brought lack of proper governance at both the societal and institutional level.

Materu (2007), asserts that these factors also include university vision and goals, the talent and expertise of the teaching staff, admission and assessment standards, the teaching and learning environment, the employability of its graduates (relevance to the labour market) the quality of the library and laboratories, managerial effectiveness, governance and leadership.

Oni (2005) opines that the factors responsible for the poor quality of university programs and graduates appear to be both internal and external to the universities. Internal factors include strikes, lack of employee motivation and weak accountability for educational performance. External factors comprise teacher shortages, corruption, inconsistent funding efforts by government and admission based on quotas rather than merit among others.

The issues that can help to improve the quality of education in Nigeria both in the short and long term border on eight factors, namely: increase in public spending; student's enrolment capacity, their motivation to learn; subjects to be learned; teachers who know and who can teach; time for learning; requisite tools and technology; acquisition and use of inputs; and performance standard (Longe, 1999).

Many factors within the system can also be linked to the low efficiency of Nigerian university system. These factors include frequent strikes leading to closure of universities and disruptions of academic calendars, over admission, inadequacies of facilities and teaching methods and even cultism. Nigerian Education Sector Analysis (2003) reported that Nigerian Universities lost a cumulative number of thirty-three months to strike between 1993 and 2003. This is almost three academic sessions.

### **Overview of the Quality Management System (QMS)**

The need for organizational commitment to quality improvement as a result of globalization and technological advancement calls for school administrators to address themselves to those managerial activities that would lead to the development and delivery of quality services.

The success of education rests in no small measure on informed planning, efficient organization and dedicated leadership; just as learning cannot take place in a classroom manned by ill-prepared and unskilled teacher, no educational system can rise above the quality of its administration. The diversified nature of our society demands a different more creative solution to our basic education problem (Ojo 2007).

Taylor and Hosker's diary (as cited in Balalola et al 2007) define quality management as "the aspect of the overall management function that determines and implements the quality Policy" Quality management includes strategic

planning, allocation of resources and other systematic activities for quality such as quality planning, operations and evaluations. It must be noted that the attainment of desired quality requires the commitment and participation of all members of the organization, though the responsibility for quality management still belongs to top management. The adoption of a quality management system should be a strategic decision of an organization.

It is argued that the quality of a company's product/services would be a far-fetched dream if its management is oblivious of some vital issues as: personnel competencies, particularly their knowledge, skills, adequate experiences and attitude to work; proper institutionalized monitoring and control mechanisms; soft element like management and employees' integrity, team culture, interpersonal relationships, confidence and commitment; and functional infrastructure and facilities (Ejiogu, 2011).

The design and implementation of an organization's quality management system is influenced by varying needs, particular objectives, the products provided, the processes employed and the size and structure of the organization. The International Standard (ISO) 9001:2000 promotes the adoption of a process approach when developing, implementing and improving the effectiveness of a quality management system to enhance customer requirements.

Onyene, (2006) noted that one of the most appropriate scientific management principles that ensure the existence of standard, high work performance level as well as absolute conformity measures is the Total Quality Management

technique (TQM). This management strategy requires a systematic management of customer-supplier relationships. The customer-supplier relationships within the school and between the school and its consumer and provider. Stakeholders are the basis for all activities. If these processes and chains are managed well, with a constant focus on high performance and improvement, then quality achievements will follow because processes produce outcomes.

### **The concept of Total Quality Management (TQM)**

Ojo (2008) defines TQM as a management style based upon producing quality service as defined by the customer and suppliers. It is an organizational wide approach to quality with improvement undertaken on a continuous basis by everyone in the organization. International Organization for Standardization ISO (1994) defines TQM as “a management approach for an organization, centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction and benefits to all members of the organization and the society”.

Ejiogu (2010) is of the same view, that TQM is “a comprehensive organization-wide strategy for improving product and/or service quality on a systematic and continuous basis”, focusing primarily on the customer and providing customer value, customer care and customer satisfaction. From the foregoing, TQM is quality centred, customer-focused, team-driven, seminar-management’s led process to achieve an organization’s strategic imperative through continuous process improvement. This is why TQM principles are also being referred to as

total quality improvement, world class quality, continuous quality improvement, total service quality and total quality leadership. As a management strategy, TQM institutionalizes a corporate culture of quality in every facet of the organization from management and her staff through processes (teaching-learning activities), to the end products called graduate output. This makes TQM an essential quality assurance strategy.

Onyene (2000) identified 14 steps which will make for effective TQM implementation in the school organization. These include that, management commitment must be assured; quality improvement team should be set up; quality measurement established; cost of quality evaluation computed; creation of quality awareness; correction action should be identified; adhoc committee for zero defect should be set; quality education should be given; zero defect events should be highlighted; engaging in team-goal setting; error-causing removal (ECR) should be used; due recognition for those who meet these goals should be given; professional quality council should be set up; and finally “do it over again” strategy should be applied. She accentuates that if these steps are followed strictly, there will be positive result, which demands that the entire procedure be repeated, so that practitioners, evaluators, decision makers etc. internalize the practice for organizational health.

TQM therefore places emphasis on customer driven quality supported by contract conformance and quality assurance. A number of characteristics of customer-driven quality (also known as market driven quality) are discerned and



stated as follows: customers can define (if helped and encouraged to do so) their expectations clearly; customers expectations and requirements sometimes differ from those assumed by the providers of services; when providers and customers work collaboratively to define requirements, and the services that will meet these requirement, performance can be improved; not all customers think alike about their expectations and requirements but initiatives that satisfy the needs of significant numbers of stakeholders can be taken. Customer-driven quality requires providers of services to be constantly enquiring as to the needs of stakeholders and to do so in such a way that stakeholders can see their ideas, concerns and suggestions being implemented on a regular basis.

### **Quality Assurance in Nigerian Universities**

With globalization, the impacts of international standards are increasing and public demand for accountability and transparency in the way schools are managed is on the rise. Educators and policy makers are therefore challenged to set appropriate standards of their own which draw on and reflect the unique history, needs and expectations of their stakeholders. Furthermore, they are expected to put in place mechanisms to enforce those standards and to monitor performance of their tertiary education systems with a view to taking appropriate and timely measures to adapt to new realities.

Quality assurance is an umbrella concept for a host of activities that are designed to improve the quality of input, process and output of the higher education system. The concept is one of the three legs of a tripod called quality management, the other two being quality control and quality improvement.

Ejiogu (2011) gives a general definition of quality assurance as a set of actions, processes and procedures which any establishment embarks upon in order to ensure that quality standards are achieved consistently for a product or service. It is a set of activities undertaken by the management and staff of an organization to build up stakeholders' confidence that products and services meet threshold minimum requirements. As the Council of Higher Education Accreditation of USA (2003) says (in relation to the education sector), quality assurance is a planned and systematic review process of an institution or programme to determine that acceptable standard of education, scholarship, and infrastructure is being maintained and enhanced; the ultimate goal being to counter quality problems, while ensuring that the products of the system conform to expected standards.

According to Cole (1996), modern approach to quality management deemphasizes quality control and places high premium on quality assurance. Quality assurance is one of the key concepts of TQM while quality control is the second leg. Ijaiya (2001) describes quality control in education as the means or mechanism by which an education system ensures that the education it delivers serves the purpose for which it intended. It is a retroactive action used to determine the quality of a product or system after processing and during which wastages would have occurred and what is left is to reject and/or battle with rectification, while Quality Assurance is a planned and systematic action necessary to provide adequate confidence that a product or service will satisfy given requirements of quality.

In his own view, Okebukola (2004) states that quality assurance is a continuous process of improvement in the quality of teaching and learning activities that will be achieved through employing mechanisms that are internal and external to the universities. It is ensuring that the provisions of the MAS are attained, maintained and enhanced. The document provides the basis for accreditation of all degree programmes in Nigerian Universities. Similarly, Ciwar (2005) opines that quality assurance in education has to do with setting standards for the various processes and activities that lead to the production of graduates by training institutions. These processes and activities include: requirements for entry into educational programmes; programme duration; course content; quality of teachers; standard of instruction and the infrastructure or facilities used; the school environment from a holistic perspective; and examination, supervision, moderation of results, grading system among others.

Quality assurance is said to be a problem-solving approach and preventive measure against wastage and failure, West-Burnham's diary (as cited in Ijaiya, 2001) states that prevention is the basis of quality assurance in any human organization. The concept is taken to be a preventive measure rather than as a rectifying measure and this is why emphasis these days has shifted from quality control to quality assurance in human organization such as the school system. In other words, whereas quality is a destination, qualitative assurance is a process.

## **The Quality Assurance Process**

The most popular approach to quality assurance is the Shewhart's Cycle, originated by Walter A Shewhart of Bell Laboratories in 1924. The cycle was further developed by Dr. Edwards Deming into four steps, universally abbreviated as PDCA (Plan, Do, Check and Act). It is sometimes referred to as "The Deming Wheel" and it is designed to ensure that excellence is assured in every component of manufacturing and/or production. It emphasizes the following:

- a. **Plan:** Stipulate your goals and objectives as well as processes needed to attain the desired results. Find out what is not going right and come up with ideas for making it better. Pareto analysis will be a useful tool to achieve this.
- b. **Do:** Carry out the plan on a small or experimental scale first, testing whether the changes are efficacious or not.
- c. **Check:** Evaluate the process that has been implemented so as to see if desired results are being achieved or not; using Key Performance Indicators (KPI) as a basic tool.
- d. **Act:** Apply corrective measures where improvement is required and implement the changes on a larger scale if the earlier small measure or experiment was successful. This is a form of process standardization, and process mapping.

The Plan – Do – Check – Act procedures are essential, especially for beginners in an industry; as well as in the establishment of service institutions. It would be foolhardy, for example, to open up a university with say, ten faculties at a go. PDCA facilitates a progression from “problem-faced” to “problem solved” position in an enterprise. Overall, the essence of PDCA is to make sure that, goods and services (from academic settings to industries, manufacture or even health care provides) which are offered to clients, customers or students meet with the best or highest standards possible.

Corroborating the foregoing, Onyene (2000) opines that, to attain as well as to meet Millennium Development Goals (MGD’s) by 2015 the PDCA will be most effective when it is carried as P-C-D-C-A-C to mean plan-check; do-check; act-check. In effect, check will be integral to the process just like “evaluation” is in the four general stages of curriculum development, by Uga Onwuka.

Quality assurance has two components external and internal to the institution. These components are treated below:

### **External Quality Assurance Mechanisms in University Education**

The NUC has remained the dominant government controlled external quality assurance agency for the Nigerian University system through its supervisory functions. The professional bodies on the other hand, perform other equally important roles in university quality assurance.

The external quality assurance mechanisms in Nigeria includes processes leading to the establishment of universities and their programmes, accreditation of programmes, admission of qualified candidates into Nigerian universities, institutional audit by the visitor to universities, monitoring and evaluation of the state of universities from time to time and collaboration with professional bodies for effective university education quality assurance. In order to fully entrench the external quality assurance process, some innovative ideas have been adopted to stimulate and promote quality in university education delivery. These include; strategic planning and management, curriculum reform and review, Nigerian Universities System Annual Review Meetings (USARM), linkages and collaboration with national and international development partners, development of physical structures and facilities, Nigerian Universities Research and Development Fair (NURESDEF), Linkage with Experts and Academics in the Diaspora (LEAD) to mention but a few. (Okojie, 2008).

The NUC, according to Okebukola (2005), identifies accreditation as a core component of quality assurance. Accreditation can be broadly defined as a process leading to the granting of approval or authority to a programme or institution after meeting a set of minimum standards of criteria. The process of accreditation begins with the establishment of a set of minimum standards against which programmes are evaluated. Secondly, a panel of experts evaluates the performance of the programme against the standards. Thirdly, a decision is taken based on the accreditation status whether to permit continued operation of the programme, make minor adjustments to it or cause the programme to be

suspended. Okebukola (2010) reported this exercise is an effective instrument to provide opportunities to advise the service providers (government or private owners) on how to revitalize their institutions in line with their objectives. It also provides an institution with an avenue for self-evaluation not only in terms of available academic infrastructure, but also in terms of the quality of the available personnel and resources (Isyaku and Akale, 2003). Accreditation involves a careful audit of the academic programmes of the institutions and of the variables which influence the quality of the system and its products. Programmes or courses may be granted full or interim or denied accreditation. Each of these has implications for the operation of the system.

The Minimum Academic Standard (MAS) documents which the commission produced in 1989 provide criteria for accreditation and the modes of ranking Nigerian Universities. Programmes are evaluated and scored by University academics based on the following criteria:

• Academic content	-	23
• Staffing	-	32
• Physical facilities	-	25
• Library	-	12
• Funding	-	5
• Employers' rating of graduate	-	3
		-----
Total		<b>100</b>

The NUC also indicated that to earn full accreditation, a programme must score 70% and above, in addition to scoring at least 70% in each of the core areas of staffing, academic content, physical facilities and library. For interim accreditation status, an overall score of 60% or more but less than 70% or an overall total score of 70% and above but with a score of less than 70% in any of the core areas identified above, while an overall score of 60% is denied accreditation (NUC, 2010).

The document went further to provide for minimum floor space for lectures, minimum laboratory facilities per student, minimum library space, library holdings and their currency as well as minimum staff/student ratios for effective teaching and learning in any given discipline. It also stipulates a curriculum as well as minimum entry and graduation requirements for each discipline, (Uvah 2005).

Accreditation in the Nigerian Universities Systems (NUS) has three objectives, namely to: ensure that at least the provisions of the Minimum Academic Standard (MAS) documents are attained, maintained and enhanced; assure employers of labour and other members of the community that Nigerian graduates of all academic programmes have attained an acceptable level of competence in their areas of specialization; and certify to the international community that the programmes offered in Nigerian universities are of high standard and their graduates are adequately equipped for employment and for further studies.



Okojie (2008), corroborating the above view, pointed out the following:

- the NUC accreditation system stands out in the African continent as a very robust system;
- the first accreditation exercise organized by the NUC in 1990 was unprecedented in the African continent;
- to add more credibility to the exercise, a team of experts in various academic fields from different African countries participated in the November 2008 Accreditation exercise as international monitors; and
- instruments were developed for ODL undergraduate (Ibadan, Lagos, Abuja, NOUN) programmes which were used for the eventual accreditation of this mode of learning.

**Table 1: University Programme Accreditation Results 1990 - 2007**

<b>Year of Accreditation</b>	<b>Number of programmes accredited</b>	<b>Full</b>	<b>Interim</b>	<b>Denied</b>
1990/91	837	185 (22.1%)	572 (68.4%)	79 (9.5%)
1999/2000	1,119	128 (11.4%)	801 (71.6%)	190 (17%)
2005/2006	1,670	748 (44.8%)	810 (48.5%)	112 (6.7%)
2007	1,110	749 (67.5%)	332 (29.9%)	29 (2.6%)

***Source:** Okojie (2008).*

*Licensing, accreditation and quality assurance in Nigeria universities:  
achievements and challenges*

Table 1 reveals the trends in accreditation result of Nigerian universities from 1990 to 2007. In the year 2000, out of 1,119 academic programs reviewed, only 11.1% were given full accreditation. This was a notable decline from the 22.1% of 837, academic programs that received full accreditation in the previous review of 1990 – 91. In 2005/2006 and 2006/2007 academic sessions, full accreditation status rose to 44.8% and 67.5% respectively.

### **Institutional Ranking by Performance of Undergraduate Courses and Programmes**

The NUC first conducted ranking of Nigerian universities based on performance of their academic programmes utilizing results of the 1999/2000 accreditation exercise. Uvah (2005) noted out that ranking was intended to encourage those universities with top level performance in the different disciplines to strive to maintain and enhance their lead and further excel. Those at the bottom of the performance league were expected to take necessary steps to remedy the identified deficiencies not only to improve the quality of their programmes but also to improve their rating in the league table.

Table 2 reveals the result of the ranking exercise based on the quality of academic programmes in 1999/2000 accreditation exercise.

**Table 2: Ranking of Nigerian Universities by the mean quality of the first degree programmes of each of them.**

Rank	University	Mean academic quality index
1.	University Of Agriculture, Abeokuta	3.74
2.	University Of Agriculture, Umudike	3.60
3.	University Of Nigeria, Nsukka	3.51
4.	University Of Lagos, Akoka, Lagos	3.39
5.	Abubakar Tafawa Balewa University, Bauchi	3.33
5.	Fed. University Of Technology, Owerri	3.33
7.	University Of Jos, Jos	3.30
8.	Nnamdi Azikiwe Univers, Awka	3.23
9	Nigerian Defence Academy, Kaduna	3.20
10.	Imo State University, Oweeri	3.19
11.	University Of Agriculture, Makurdi	3.18
12.	Ahamdu Bello University, Zaria	3.14
12.	Bayero University, Kano	3.14
12.	University Of Ilorin, Ilorin	3.14
15.	Olabisi Onabanjo University, Ago-Iwoye	3.11
16.	University Of Ibadan	3.02
17.	Fed. University Of Technology, Minna	3.00
18.	University Of Ado-Ekiti, Ado-Ekiti	2.93
18.	Obafemi Awolowo University, Ile-Ife	2.93
20.	University Of Maiduguri, Maiduguri	2.89
21.	Enugu State University, Enugu	2.84
22.	University Of Calabar, Calabar	2.76
23.	Usmanu Danfodiyo University, Sokoto, Sokoto	2.75
24.	University Of Benin-City	2.70
25.	University Of Port-Harcourt, Port-Harcourt	2.68
26.	Abia State University, Uturu, Uturu	2.66
27.	Lagos State University, Ojo, Lagos	2.64
27.	Fed. Universityof Technology, Akure	2.64
29.	Ladoke Akintola Univ. Of Tech. Ogbomosho	2.46
30.	University Of Uyo	2.43
31.	Benue State University, Makurdi, Makurdi	2.36
32.	Fed. University Of Technology, Yola	2.33
33.	Delta State University, Abraka	2.21
34.	University Of Abuj, Abuja-F.C.T.	2.20
35.	Ambrose Alli University, Ekpoma	2.14
36.	Rivers State University. Of Science & Tech, P/Parcourt	2.13

**Source: NUC (2002)**

The Commission has subsequently ranked Nigerian universities on the basis of a multiple set of performance indicators encompassing such areas as governance, academic excellence, research and adherence to approved national norms. Using this instrument involves the compilation and computation of the total aggregate score of academic courses provided by each institution. The product of this computation yields mean quality index score which provides a quality measure of the general position of the programmes available in the institution. The aim is to encourage healthy competition while maintaining academic quality and good governance.

The efficiency of the Nigerian university system, can also be inferred from the NUC ranking of universities on extent of compliance or non compliance with the carrying capacities rule at federal and state university levels. The result of institutional monitoring exercises conducted by NUC, shows that some institutions were found to be over enrolled, while some were under populated. Carrying capacity is the maximum number of students that the institution can sustain with qualitative education based on available human and material resources. Olabisi Onabanjo University (OOU) Ago-Iwoye, Ogun State was found to have exceeded her capacity by 24,628. The institution was identified as the university with most over populated students' enrolment in Nigeria. Ambros Ali University Ekpoma followed OOU with 20,220 more than her carrying capacity. Among the Federal Universities, University of Nigeria, Nsukka has the highest over enrollment figure of 18,095, followed by Nnamdi Azikiwe University Awka, with 15,088 (NUC, 2005). This, to a very large extent has serious implications on quality assurance of the products, teaching personnel, instructional material to mention but a few.

### **Internal Quality Assurance Mechanism in University Education**

Internal quality assurance mechanism has to do with an academic community's recognition and acceptance of the need to set and attain defined levels of performance and scholastic achievement within the context of university's vision and mission (Omoriegie 2005). These are the processes of evaluation, maintenance and promotion of quality within the university by the university. Every process of the administration of a university should automatically lead to delivery of quality university education.

The internal mechanisms start from the point of admission into the university. In all universities, the minimum admission requirements are often stated as a basis of admission, while the admissions committees are usually set up to take care of the process. Quality is assured through the various inputs from departments and faculties. This ensures that candidates who do not meet the minimum requirements are not admitted. Quality of students admitted into the university is one of the crucial factors in attaining high quality graduates. The Joint Admission and Matriculation Board (JAMB) and the post UTME screening tests of potential students are to beef up quality university admission.

In a study titled, *Fifty years of Higher Education in Nigeria: Trends in quality assurance process of the Nigeria university system, since 1960*, Okebukola (2010) reported that the process of admitting students was adjudged, on the average, to be above 80% in quality between 1948 and 1960. A steady depreciation crept in from 1970 to 2000 where a 54% mean score was recorded. A rise to 66% was noted for 2010. Participants in the study explained the drop from 1960 to 2000 among other factors, the increase in the number of

universities leading to a motley assortment of admission processes especially by state universities with their unapproved satellite campuses. There is also the issue of examination malpractices by UTME candidates which compromises the quality of candidates admitted into the universities. The spurt of improvement in the process recorded for 2010 was adduced to be the post UTME screening instituted in 2004.

Proposals for the establishment of programmes also follow strict internal guidelines, through which such proposals emanate from the department, and scrutinized through faculty boards and senate. This way all relevant inputs and queries would have been made and addressed. Universities also carry out both regular monitoring, and periodic review of their programmes, (Okojie, 2008).

Quality assurance within institutions of higher learning takes place throughout the teaching and learning process. Materu (2007) opines that this is stipulated in the powers given to the Senate in the universities. It also includes staff recruitment and promotion procedures, curriculum reviews, teaching and learning facilities, quality of research, policy development and management mechanisms, student evaluation of staff, external examiners for end-of semester or end-of-year examinations, tracer studies, academic reviews and audits. A study carried out by Materu (2007) revealed that implementation of some of these processes is weak due to financial constraints, failure to keep up with new approaches to teaching and learning such as the Information Communication Technology (ICT) and increased workload resulting from large student numbers. There is no doubt however, that the availability and utilization of resources in no small measure determines quality in education especially university education.

## **Qualitative Resourcing and University Productivity in Nigeria Education**

Resources refer to the totality of everything that goes into the educational system as inputs to enhance the achievement of set objectives. Okunola (1987) defines educational resources as the total inputs into an educational programme in terms of human efforts, funds, facilities, equipment and others. He asserts that as the school organization becomes more complex, the concern and the need for equitable allocation as well as optimal use of available resources become imperative. Educational resources are all the things that are used directly or indirectly for the purpose of supporting, facilitating, influencing, encouraging, transmission or acquisition of knowledge, competence and skill.

Oni (1995) classifies educational resources into four types: these are financial, material, human and education resource centres. Schools like other organisations require resources for their operation since schools exist for teaching and learning, programmes and supporting services having to do with teaching and learning need to be planned to determine the resources needed. Resources initially enter in the form of money which is then transferred into real resources - that is staff, services and physical goods.

Different studies on educational resources by Bosah (1997), Adeogun (1999), Adesina (2000) and Etuk (2005) found that the successful accomplishment of educational goals is hinged on the availability and adequacy of educational resources. Fagbemi (1986) in assessing the possible causes of poor quality of education noted that the problem may depend on the quality of inputs into the system since output can be determined by the quality of inputs. Aghenta (1988)

opined that education output depends on what goes into the education system and how what goes in is processed. In education, inputs include the curriculum, physical facilities, material resources, lecturers, students as well as the school-industry linkage.

### **The Concept of Human Resources**

The development of any nation depends to a very large extent on the caliber and organization of its human resources. Emphasizing the importance of human resources, Stoner and Freeman (1989) assert that the most important resources of an organisation are its human resources – the people who supply the organization with their work, talent, creativity and drive. Thus, among the most critical tasks of a manager are the selection, training and development of people who will best help the organization meet the goals. Without competent people at the managerial level and indeed at all levels, organizations will either pursue inappropriate goals or find it difficult to achieve appropriate goals once they have been set.

Similarly, the proponents of human capital theory assert that human resources are the most important of all global resources. Harbison (1973) noted that: “human resources, not capital, nor income or material resources constitute the ultimate basis for wealth of nations.... Capital and natural resources are passive factors of production, human beings are the active agents who accumulate capital, exploit natural resource, build social, economic and political organizations and carry forward national development”.



The development of any society depends largely on the creative capacity of the citizens to be capable of effectively exploring and exploiting the country's natural, physical /material and financial resources so as to enhance the standard of living of the country's citizens. The human resource is critical to organizational survival such that it has, judging by today's complex business environment, been acclaimed as the most important resource available to any organisation.

Banjoko (2006) reported that Tom Beele, the one-time Chief Executive of United State Delta Airline, once declared, when asked about the secret of his company's huge success that:

“the name of the game in today's business is people, you can't hope to show a good financial or operating report unless your personnel relations are in order and I don't care what kind of a company you are running... You've got to have the right ones in the right jobs and you've got to be sure employees at every level are being paid fairly and being given opportunities for promotion...” (p. 2)

He further accentuates that human resources need to be well compensated (through adequate remunerations) well developed (through training and development) and well managed in order to reduce the level of the frequency of employee turnover and absenteeism as well as error and wastage rates.

Buttressing this view, Ejiogu (2000) affirms that if the people (human resources) in an organization are what really make up the difference, then their development and the creation of organizational conditions for full utilization of

their developed talents should be of utmost concern to all employers, the management and the employees themselves. Initial education and/or training are necessary for a takeoff. But this often becomes too obsolescent in the continuing knowledge and jet-speed technological development of today's society.

### **Human Resource Utilization in Nigerian Universities**

No organization can develop beyond the quality of its human resources. The effectiveness, acquisition, utilization and maintenance of the organizational human resources is central to the growth, viability and survival of any organization.

Human resources constitute the first resource requirement in Nigerian Universities. Human resources refer to such factors as learner teacher ratio, learner enrolment, teacher quantity and quality among others. The Nigerian Universities have been critically bedeviled with dearth of human resources as a result of many factors such as explosive enrolment, brain drain etc. According to Saint, Hartnett, Strassner (2004), institutional deterioration and salary erosion during the past decade have prompted substantial brain drain of lecturers and impeded new staff recruitment even as enrolment rises. Recruiting of lecturers is a major challenge to both newer schools and established schools or institutions. Even though the demand for education has been growing steadily over the last decade, the production of teachers or lecturers has not risen to satisfy that demand even those lecturers that are available are seeking for "greener-pastures". The shortage of staff makes it increasingly difficult for schools or institutions to increase their faculty to meet the demand for business programmes (Mair, 2002). Saint et' al (2004), reported that between 1988 and

1990, over 1000 lecturers left the Federal University System. Also between 1997 and 1999, the numbers of lecturers declined by 12% even as enrolments expanded by 13%, (NUC 2002). Saint et al further report that an estimated 30 per cent of approved academic positions are vacant in federal universities. Staffing scarcity is most acute in engineering, science and business disciplines. Short falls are estimated at 73% in engineering, 62% in medicine, 58% in administration and 53% in sciences. In contrast, no staffing shortages exist in the disciplinary areas of arts and education (NUC 2002).

Odetunde (2004) lamented the mass exodus of many brilliant lecturers who could not compete on political campus arenas from the university campus. Some left to join the rat-race in the business world, others left Nigeria for better services. Materu (2007), reported that Sub Saharan Africa (SSA), the poorest among the poor regions of the world, has the highest rate of emigration of skilled workers. The percentage of tertiary education emigrants from the region increased from 23 per cent in 1990 to 31.4 per cent in 2000.

Going by the above, it is apparent that if Nigerian university education was to achieve its purpose in the country, it is required that a large retinue of highly motivated, satisfied, intellectually and skillfully competent lecturers, who will bring to bear the desired changes intended in the students be employed in our universities. According to Ogunleye (1999) and Yakubu (2000), lecturer shortage in Nigerian universities has made some of the courses not to be properly taught to students.

Okunola (2007) also clearly identified the challenge of shortage in lecturer number in universities, and how it affects teaching and learning. Balogun (1991) was more succinct in his analysis of lecturer shortage in Nigerian universities. He categorized lecturer inadequacies in four groups viz: overt shortage of lecturers; hidden shortages; suppressed shortages and modern shortages. He noted that actual vacancies to be filled is overt shortages; positions filled by unqualified lecturers who teach outside their area of specialization are hidden shortages; suppressed shortage is seen as relating to lack of pedagogical training required in teaching while modern shortage is used to describe lecturers who are qualified but are out of touch with current development in their fields. It is sad to note that in studies carried out by Aghenta (1992); Oni (1995); Adeogun (1997); Galloway (1989) and Okunola (2007) all four types of shortages are inherent in Nigerian schools; and these affect both teaching and students' performance negatively.

Aghenta (1992) argued that the idea of engaging the services of unqualified lecturers is having a toll on the transformation of school curriculum as much cannot be expected of lecturers if they have inadequate knowledge of the new trends and dynamics in their area of specialization. Qualified and competent lecturers are central to relevant skills acquisition and hence the production of competent graduates from Nigerian universities who would propel Nigeria's industrial development. Darling-Hammond (1999) supports this view when he enthused that the framework for understanding the labour force outcome of schooling has conceptualized lecturer quality as key input. Ejiogu (1990) upheld the above view when he averred that the strength and quality of academic and non-teaching staff has a lot to do with the quality of educational products.

Ajeyalemi (2002) agreed as much when he opined that of all the factors affecting science and university education in Nigeria, the lecturer factor is the most crucial.

In their studies, Darling-Hammond (2000) and Adegoke (2002) found a significant relationship between lecturer's number and quality and students' performance thus noting that lecturer's number and quality is one of the indicators of standard of educational products. They observed that students learn more from lecturers with strong academic skills, from those more experienced and from those with high professional capacity. Fagbamiye (2003) also remarked that the number of lecturers as well as their competent contributions influence students' achievement and graduation rate.

**Table 3: The number of Lecturers, Students Enrolment, and Teacher/Student Ratio in Nigerian Universities 2000 – 2005**

<b>Year</b>	<b>No of Lecturers</b>	<b>Number of Students enrolled</b>	<b>Teacher- Students Ratio</b>
2000/2001	18,867	358,758	1:19
2001/2002	18,426	444,949	1:24
2002/2003	22,046	606,104	1:28
2003/2004	23,871	727,408	1:30
2004/2005	23,535	780,001	1:33

**Source: Adapted from Federal Ministry of Education (2007)**

*Statistics of education in Nigeria: 1999 - 2005*

In spite of shortage of skilled manpower (lecturers) there is explosion in students' enrolment. Table 3, reveals students enrolment, lecturers strength and teacher-student ratio in Nigeria University. Enrolment stood at 358,758 in 2000/2001 academic session, it grew to 444,949 in 2001/2002 while in 2002/2003 it rose to 606,104. In 2003/2004 and 2004/2005 academic sessions, it was 727, 408 and 780, 001 respectively. This indicates that between 2000/2001 and 2004/2005 students enrolment grew by approximately 117 per cent. As students enrolment increased by 117 per cent, lecturers strength increased only by less than 25 per cent. This has worsened the teacher-student ratio. This is a global trend and it reflects on the whole of African continent. Materu (2007) postulates that between 1985 and 2002 the number of tertiary students increased by 3.6 times (from 800,000 to about 3m), on average of about 15 per cent yearly. This trend was led by Rwanda (55%) Namibia (46%), Uganda (37%), Tanzania (32%) Cote d'Ivoire (28%). As enrolment rises, teacher student ratio declines.

In terms of academic disciplines the highest rates of enrolment growth occurred in the sciences and in engineering (Saint et al, 2004). Okebukola (2006) laments that according to NUC calculations on teacher-student ratio based on approved MAS, that the system requires about 21,912 teachers. This leaves a deficit of 5,056 teachers in federal universities in the country.

As student enrolment rises, dropout rate also increases. Okebukola (2002), bemoaned that the highest dropout rate was recorded in the case of Ustman Danfodio university, Federal University of Agriculture, Abeokuta, University of Calabar and Obafemi Awolowo University, Ile Ife, with 57.4%, 57.1%, 46.7% and 46.1% respectively. These rates were lowest in university of Maiduguri,

Bayero, Kano, Federal University of Technology Owerri and Akure with 9.1%, 10.5%, 10.8%, and 15% respectively. Disciplines such as Agriculture, Veterinary Medicine, Law, Environmental science, Social science and Medicine recorded mean dropout rates above 30% while Engineering, Arts, Education, Administration, Pharmacy and Pure science recorded mean dropout rates below 30%.

### **Physical/Material Resources and Teaching Effectiveness**

Apart from the teacher and students inputs, another equally important component for assuring the quality of higher education is the quantity and quality of physical and material resource. This is because the operations of staff and students will be worthless if adequate preparation is not made for relevant facilities, equipments and materials to be made available when they are needed by the users.

Butterasing the importance, Uche, Okoli and Ahunanya (2011) stated that infrastructural facilities and physical environment give educational institutions their appropriate shape and atmosphere for teaching and learning. These facilities portray the quality of the institution in terms of their staff/students friendliness, attraction to outsiders, aesthetics, healthy, safe, currency and relevance.

Material resources in the University refer mainly to many of the non-consumable materials. They are also the physical infrastructural facilities provided in the University for research and teaching. Material resources include all the structures as well as machines, laboratory equipment, the chalkboard and other

tools of the lecturer. They include all infrastructural facilities, which are usually put into educational use like furniture, laboratories, laboratory equipment and materials, classrooms, library, studios and the space within the premises of an educational institution Fadipe's diary (as cited in Alani, 2011). Many educationists believe that the site of the institution, the building and equipment should be included as well. Uche, Okoli and Ahunanya (2010) opine that quality assurance of these facilities right from their planning, to development and utilization will ensure effective realization of set goals and objectives in higher education institutions.

Ivowi (2005) identified facilities in universities to include machines of different types and sizes, ICT materials, chemicals, other unspecified equipment and consumables like paper, markers, chalk etc. Onyene, (2000) considers facilities to fall under the purview of movable and immovable property. The movable properties in her view include fans, buses, cars, generating sets etc; and the immovable which are many and varied are sub-divided into permanent hardware and material software. The hardware are machines, tools, equipment and concrete structure; software are perishable and hardware bound. Madumere (1999) on her part posits that most perishable facilities are consumable while physical facilities are non-consumables. She categorized school facilities into three namely; (a) consumables like chalk, biros, paper, maker, chemical, water; (b) non-consumables which include computers, laboratories' equipment, blackboard markers, textbooks, machines, furniture, generating sets, tools, electrical sets and other appliances and (c) the physical resources which are made up of classroom blocks, laboratories, libraries, boreholes, etc.



Ehiamentolor (2001) sees school facilities as the operational inputs which enable a lecturer to achieve some level of instructional efficiency and effectiveness. Noting the importance of facilities in school outcomes, Okunola (1987); Hallmark (1997); Adeogun (2001) and Madumere (2007) asserted that availability, relevance and adequacy of facilities contribute to the academic achievement and hence competence level of graduates. Schools without facilities have the tendency to hinder good teaching and as such are a deterrent to learning with far reaching implications for students' performance and competence level on graduation. Nwafuluaku (2003), Onyene and Fabiyi (2007) corroborated this assertion when they noted that availability and adequacy of modern state of the art facilities are essential and therefore imperative for quality assurance in education. In this regard, the importance of well equipped laboratories, workshops, studios, libraries and the injection of ICTs, etc cannot be over emphasized.

Infrastructural facilities are provided for the enhancement and promotion of teaching and learning activities. Nwagwu (1997) and Adesina (1990) assert that the quality and quantity of the educational facilities available within an educational system have positive relationships with the standard and quality of the educational system. These facilities are grossly inadequate in Nigerian universities. According to her, the inadequacy of these facilities is a major source of crises in the educational system. The crisis of the shortage of these facilities is felt everywhere and at all levels of the educational system. The library facilities and books are grossly inadequate and so is the provision of classrooms, classroom furniture, laboratories and workshops. These were also the reports of Afolabi, (2002) and Anukam, (2001).

In a study carried out by Adeogun and Osifila (2007) on the adequacy of educational resources for quality assurance in public colleges of education in Lagos state, the findings of the study revealed that the quantity of physical facilities available in the institution investigated are inadequate and material resources are fairly adequate. This is contrary to the findings of Adegbasan (2007) whose findings indicate that the availability of school plants in technical colleges is on the high side. This may be attributed to the fact that government provides more for technical colleges than conventional institutions.

In a survey conducted by NUC, Okebukola (2002) lamented that only about 30 per cent of Nigerian student population has adequate access to classrooms, lecture theatres, laboratories, workshops and libraries. Students need to have all the basic infrastructure and conducive environment for active learning to take place. Educational facilities are the physical infrastructures that contributes directly or indirectly to the teaching and learning process in the educational system

However, Madumere (2007) insisted that the problem of inadequate school facilities and plants in Nigeria could be associated not only to increase in school enrolment and over utilization of available facilities, but also to poor or meager budgetary allocation to education which leads to poor or lack of maintenance of available plants and facilities. Inadequate funding has resulted in problems such as the breakdown and deterioration of facilities, shortages of new books and current journals in the libraries, supplies of laboratories and limited funding research.

Classroom communication materials refer to those teaching aids or instructional materials which accelerate the teaching learning process Ikerionwu (2000) refers to instructional materials as objects or devices which help the teacher to make learning meaningful to the learners. They are classified into two: visual materials, made up of reading and non-reading materials and audio visual materials comprising of electrically operated materials. The purpose of instructional materials is to provide learners with knowledge of specific areas, to promote meaningful learning, and to enhance professional productivity. According to Aduwa – Ogie-gbaen and Imogie (2005), these materials and resources including audio tape recorders, video tape recorders, slide projectors, opaque projector, over head projectors, still pictures, programmed instruction, filmstrips, maps, charts, graphs and many more, offer a variety of learning experiences individually or in combination, to meet different teaching and learning experiences.

In a study carried out by Okobia (2011) on the availability and teachers' use of instructional materials and resources in the implementation of social studies in junior secondary schools in Edo State, Nigeria revealed that most instructional materials and resources are not available in the schools. The most available materials are textbooks and chalkboards, others such as charts, graphs, posters, etc, which are locally available and inexpensive are not provided. Audio- visual materials like Television, computers, overhead transparencies, video recorders, are not just there at all.

The importance of ICT in teaching learning process can never be over emphasized. Buttressing this view, Harry, (2009) stated that efficient teachers incorporate numerous learning styles into their classroom strategies and that when instructions included text, visual and some kinesthetic in the content presentation, they are likely to incorporate the learning styles of many students, therefore more students can be successful in their learning the first time. A study of present use and usefulness of a computer based learning at a technical university by Baillie and Percoco (2000) revealed that there are many difficulties for lecturers in using the new technologies because of logistics problems, such as lack of time, technical support, appropriate software and hardware.

In a study carried out by Momna (2007) in the University of Bath; U.K. found that the use of blended learning (combination of regular classroom face-to-face and computer based tutorials) is a means of improving both the effectiveness and efficiency of large group teaching. Becta (2004) emphasized that computer technology is used to achieve teacher efficiency because it facilitates quicker network which allows teachers to perform administrative task more quickly and more thoroughly.

Fredriksson (2004) reported on behalf of UNESCO and UNICEF that a group of researchers examined primary schools in some of the least developed countries and found that the schools very seldom had basic equipment such as black board, cupboards, teacher's chair, teacher's desk, desks and chairs for the students. In Ethiopia for example 72% of the students received their education in schools that

needed basic repairs or had to be totally rebuilt. In India, 31% of the schools visited did not have any acceptable classrooms, only 16% of the schools were not in need of any repair.

Among the challenges and/or opportunities facing the lecturers in Egypt, Said's diary (as cited in Collingwood 2003) observed that traditional lecturing style rather than the new teaching methods was in use as a result of large classes, limited acquaintance with and support for new teaching technologies, limited resources and available facilities and space. Apart from this, there is lack of conducive working conditions, modern educational technology and research and development infrastructure. He further asserts that in Kenya, the massive expansion of university education from the mid-1980s to the 1990s took place without a proportionate rise in the physical resources available to universities, scholarly literature and equipment for teaching and research. Similarly, Chilando's diary (as cited in Collingwood 2003) also reported that higher education institutions in Mozambique also face the problem of availability and dissemination of learning materials. Resources and services enabling teachers to enrich their classroom teaching were lacking in many countries, Nigeria, being no exception. A tremendous growth in students' population without corresponding growth in the number of school facilities have put the existing facilities under pressure.

### **Funding and University Education in Nigeria**

Funding university education amid increased enrolment has been a chronic problem on which several scholars have commented (Banjo 1991; Ajani 1999; Nwaka 2000). Financial resources refer to monetary input resources into the

educational system to enhance academic performance and facilitate the achievement of set objectives. The role played by money in the life of an institution cannot be under estimated. This crucial role of money was vividly expressed by Coombs (1968) in his assertion, “Money is an absolutely crucial input of any educational system. It provides the essential purchasing power with which education acquires its human and material inputs. With too little money, education can be helpless, with an ample supply, its problems become more manageable even though they do not vanish. Resources initially enter in the form of money which is then transferred into real resources – that is staff, services, and physical goods”.

The quantum of money available for university education no doubt, plays a significant role in the life of a tertiary institution. The present economic crisis that has seriously led to inadequate allocation of funds to Nigerian universities and other tertiary institutions calls for prudent and judicious utilization of the available funds. Fadipe diary (as cited in Alani, 2005) recommended the following strategies for managing finance in the universities:

- Ensuring that the leader is experienced, professionally competent and reliable with regards to financial and administrative matters;
- Using all financial allocation only for the purpose or programmes for which they are approved;
- Evolving a sound reliable accounting system; and
- Adequate budgetary control strategy.

Akinkugbe (2001) and Shehu (2005) lament that underfunding and inadequate financial resources among other factors are the major constraints to quality university education in Nigeria.

## **Trends in Expenditure in Nigerian University Education**

Babalola (2007) asserts that Nigeria governments have not been able to provide the financial resources necessary to maintain educational quality. A country's annual budgetary allocation to education as recommended by the UNESCO was at least 26%, the Etsu Nupe panel, in 1997, recommended 30% and the vision 2010 committee (1997) also recommended not less than 26%. In spite of this, the annual budgetary allocation to education in Nigeria rather than being progressive towards the minimum standard of 26% as recommended by UNESCO for every developing country of the world, experiences a systematic reduction. And to compound this problem, the higher institution especially the Universities in Nigeria, rely mostly on the government for their funding.

**Table 4: Education Sector share of the Federal Budget 1996 – 2003 (in ₦' Millions)**

<b>Year</b>	<b>Total Budget</b>	<b>Allocation to Education</b>	<b>% of Total Allocated to Education</b>
1995			7.2
1996	121,221.9	15,351.7	12.66
1997	188,089.3	16,841.2	8.95
1998	246,342.4	23,668.1	9.61
1999	249,000.0	27,713.5	11.13
2000	n.a	56,568.5	8.70
2001	n.a	62,567.1	7.00
2002	n.a	n.a	5.60
2003	n.a	n.a	1.83

*Source: Adapted from Federal Ministry of Education (2003).*

*Education Sector Status Report Abuja*

*Key: n.a – Not available*

Table 4 Shows that budgetary allocation to education was 12.66% in 1996, it went down to 8.95% of the total budget in 1997 while it was 9.61% in 1998. In 1999, the allocation was 11.13% of the nation's total budget. In 2000, it was 8.70% and in 2001 it plummeted again to only 7%. In 2002 and 2003 it degenerated to 5.6% and 1.83% respectively.

At a forum organized by University of Lagos to raise 500 million pounds for development of the University, Chief Olusegun Obasanjo, the then President of the Federal Republic of Nigeria remarked that Universities degenerated to uncomfortable levels because of inadequate funding. To tackle the system's funding limitations, the government announced its decision in July 2000 that institutions were henceforth awarded administrative and financial autonomy. They further announced an increase in University funding to a level of \$900 per student and urged 8 universities to generate an additional 10% of their recurrent budget from income – producing activities (Saint et al, 2004).

When government funding becomes insufficient to maintain institutional performance in teaching and research, universities in other part of the world have sought to supplement their public funding with locally generated income (fees, cost recovery, business income, investment income, gifts etc.). This is also true in Nigeria, locally generated income has contributed a relatively constant share of around 15% of universities recurrent budgets in recent years varying among institutions from a low of 4% to a high of 37% (Harnett 2000).



There are basically three main sources of funds to finance higher education in Nigeria, namely: the government (through public budget and the education tax fund); the institutional internal generated revenue and donations from donor agencies; and philanthropists and private organization. Federal University revenues are received mainly from these three sources: the Federal Government (84%); income generated activities (7%); and various student fees 9% (Saint et al, 2004).

State Universities appear to be the worst hit by poor funding, the report of a national study carried out in 2005 using the University System Annual Review Meeting (USARM) by the NUC concluded that over 30 per cent of state owned universities were starved of funds by their proprietors, therefore grants for payment of staff salaries were acutely short in some cases compelling the authorities to argument through revenue sources that were unhealthy for the academic life of the institution... all the state universities had a total proprietor grant of about ₦35 billion (\$140 million). This compares unfavourably with ₦50 billion (\$200 million) received by the 29 Federal Universities within same period (Nworah nd).

Nigeria's allocation shares for education diverge sharply from regional and international norms. For example, UNESCO's World Education Report (2000) indicates that for nineteen, (19) other countries of Sub-Saharan Africa, education expenditures averaged 5.1% of GDP and 19.62% of total government expenditures. On the average, these countries allocated 21% of their education budgets to tertiary education.

In comparison with other African Nations, Nigeria's funding effort on education is less than half as rigorous and its budgetary priority for education sector is lower, even as tertiary education receives a much higher amount of national resources than other levels (Saint et al 2004).

### **The Place of University Education in the National Policy on Education: Implications for National Development**

National Policy on Education 2004 outlines the goals of tertiary education which include among others: contribution to national development through high level relevant manpower training; developing and inculcating proper values for the survival of the individual and society, developing the intellectual capability of individual skills; promoting and encouraging scholarship and community service, forging and cementing national unity; and promoting national and international understanding and interaction.

Many studies have linked education to more rapid economic growth and lower levels of poverty and inequality. Education yields high private and social returns at the microeconomic level; it is correlated with higher individual earnings, as well as improved health and reproductive choices. The growing belief that education is an intrinsic good have convinced policy makers that universal education is a key ingredient in economic and social development. Materu, (2007) postulate that recent studies have demonstrated that for developing countries higher education can play a key "catch – up" role in accelerating the rate of growth towards a country's productivity potential.

The National policy on education 2004 stipulates the focus of Nigerian Universities as, contribution to national development through high level relevant manpower training, developing the intellectual capability of individuals to understand and appreciate their local and external environments, acquisition of both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society among others. The policy further accentuates that these institutions pursue these goals through teaching; research and development; generation and dissemination of knowledge among others. Essentially, higher institutions all over the world perform three principal and traditional functions which include teaching, research and community service though of recent, with the idea of globalization, ICT development has posed more challenges to higher institutions in developing world.

### **The Concept of Service Delivery**

Literally, service can be described as work done for the customers of an establishment, often with regard to whether it pleases them or not. The term delivery can also simply be defined as the transfer of something such as mail, goods, services that have been paid for to a person or address.

The manner in which a teacher, or staff member delivers a programme is what is termed quality of delivery (Carroll, Patterson, Wood, Booth, Rick & Balain, 2007). Carroll et al suggested that an evaluation of quality of delivery may require using a benchmark, either within or beyond that stipulated by an intervention's designers. This could involve either delivering the intervention using techniques prescribed by the programme or applying a benchmark from outside the programme.

Literally Olayemi (2009) defines service delivery in civil service as the inter-relationship between the government functionaries and the citizens whom the services of the government are addressed to, and the manner in which the services reach those for whom they are intended. An effective public service delivery mechanism would ultimately lead to good governance.

Service delivery according to Barney (2011) refers to capability; organization's capability to deliver on the promises that were made and being able to stand over any key performance indicators or service agreements. Service delivery is all about people, process and procedures and the right infrastructure to deliver those services correctly. He identified five steps to improve service delivery as: understanding customer needs; turning the customer needs into service criteria (i.e. turning the customer needs into an auditable standard or an audit framework); auditing; reporting and certification and finally continuous improvement.

### **Nigerian Universities and Service Delivery**

The primary function of a university is manpower development. Its services must be such as would meet the demands of its populace and constantly provide pathway for the development of other services. Universities are enterprises that produce and distribute public good, which is knowledge. Salter (1983) noted that production of knowledge is the major focus of universities and that this production has always been linked up with teaching and research. Universities have the duty to teach and carry out research for academia growths as well as for national development.

In this work, service delivery is conceptualized as teaching effectiveness and research output as the two major functions performed by higher institutions all over the world. The ability of the university to perform these services effectively and efficiently will in no small measure raise the quality of education thereby achieving the goal of manpower development.

### **Teaching and Teaching Effectiveness**

Teaching is a multi-dimensional process comprising a number of separable dimensions or instructor attributes which sometimes are difficult to evaluate in a quantitative way. The aim of teaching is to make student learning possible. Teaching plays a central role in the life of most lecturers and it is a role most enjoy (Barnett and Illwick, 2005). The requirements of good teaching are many and it encompasses a wide range of activities including one-to-one consultations, classroom teaching, postgraduate supervision, advising students, assessing students' materials, contributing to course design and improvement and to curriculum development.

Effective teaching is an aspect of teaching and is influenced by a combination of teacher characteristics (such as clarity, capacity to motivate the students and to help them in the study of his topic, ability to organize the lesson also with exercises and handouts) physical aspects of the classroom or laboratory and class characteristics (such as students characteristics; gender, age, high school of origin, mark obtained at the end of compulsory or high school, faculty attended by the student, or class size (Pagani & Seghien 2002).

A study on teaching effectiveness by Buskist (2002) revealed three dimensions of effective lecturers, as firstly, they love the subject matter, the craft of teaching, and students. Second they are proactive in their striving to become better teacher, and finally, they emphasize interaction between student and teacher. Ansari, Achoui, Ansari (2000) summarized the teacher effectiveness into five dimensions namely mastery or knowledge of subject, preparation and organization of lectures, clarity of presentation or communication, enthusiasm, ability to stimulate students thought and interest.

There are many ways on how teaching effectiveness or performance should be measured. Berk (2005) reports that, historically, student ratings have dominated as the primary measure of teaching effectiveness. According to Norazuwa (2000), virtually, all universities use students' evaluation of lecturer as a measure of instructor performance. This is attributed to the fact that students are one of the consumer groups interested in the product of a university education, students opinion are considered a vital source of information concerning the quality of instruction at universities. A survey of 40,000 department chairs (US. Department of Education, 1991) indicated that 97% used student evaluations to assess teaching performance (Berk, 2005)

### **The Concept of Research**

Research can be viewed as a systematic attempt, search or investigation to find solutions to problems or questions in order to increase the sum of knowledge. It consists of a study and investigation to discover facts, insights and other elements about a particular domain of knowledge.

There was a broad consensus in definition that research involved creation of new knowledge, sustained inquiry and publication of results. Huges (2001) and Hirst (2001) affirm that the place of research in universities has also evolved from multiple international origins. From Germany, the combination of teaching with research is the role of the academic and the research institute; and from the US and, to some extent Britain, the trained professional researcher – the PhD-and the department organized by disciplines, combining research and teaching. Prior to the development of the research in university, teaching was aimed neither at the production of knowledge nor at the new knowledge producers. Universities were funded on basic understanding that university academics were expected to be both teachers and researchers.

Research determines the quality of any higher institutions. It constitutes a very paramount criterion for promotion of lecturers and as such, it is highly regarded, sought after and required high level participation and quality work.

### **The State of Research Output in Nigerian Universities**

Research and development is part of tertiary education institutions job content. It is argued that research output can be measured adequately by the quantity and quality of publications. The reputation of a university is largely built by the quality of its research output and the impact it has on the immediate community, the country and the international relations. Archibong (2011) noted out that the major determinant of the reputation and status of a university (and of a researcher) comes from the quality and impact of its research output. Buttressing this view, the NPE (2004) stated that University research should be relevant to

the nation's development goals. In this regard, university shall be encouraged to disseminate their research result to both government and industries. Government anticipates a close positive link between University research and developmental goals and also a mutual relationship between University researchers and industries. Research is the only means of monitoring and tracking down the needs for the labour market.

Considering the importance of research, in national development of higher level manpower, Babalola (2007) asserts that research grants to universities should be given priority. The evidence of this is shown in other parts of the world where their research grants are on the increase while that of Nigeria is not so. Available data indicate low levels of investment in research capacity in Nigeria as a result of poor funding. The Nigeria Government spent about 2 per cent of annual University recurrent allowance on University research contrary to USA where about 77 per cent of government funds goes to basic research.

Poor funding of research in Nigeria brings about a decrease in academic publications. Nigeria was one of the five countries of the world with a decrease in academic publications between 1981 and 1995. Number of scientific publications for 1995 in Nigeria was 711 – significantly less than its output of 1,062 scientific publications in 1981 by a comparatively much smaller University system. In contrast scientific publications were 3,413 for South Africa; 14,883 for India; 310 for Indonesia and 5,440 for Brazil (Taskforce in Saint et al, 2004). Furthermore, Nigeria was ranked third from behind, of 80 countries with respect to the number of scientists and engineers in research and



development across the world between 1981 and 1995. The country's low research output probably reflects the low priority accorded to it by the government.

The NUC assessed research outputs in Nigerian Universities in 2005 and reported that only 20 universities scored between 10 and 200 in their research output (Akuegwu, Udidia and Bassey, 2006). This finding is disturbing because out of over 80 universities in the country then, only 20 live up to their research responsibilities. Furthermore, is the fact that, no Nigerian university ranked among the first five thousand in research productivity in the January 2007 ranking of world universities (InternetLab, 2007), only Obafemi Awolowo University came first in Nigeria, with 5834<sup>th</sup> position in the world and 44<sup>th</sup> in Africa.

A consistent finding has been that research output is highly skewed, with relatively few academics contributing to the bulk of research publications and significant number of academics producing little or no output over prolonged periods. Ramsden (1998) found that 10 per cent of lecturers in pre-1987 universities produced 36 per cent of publications, and 14 per cent accounted for half. For the newer universities the skew was greater, with 10 per cent accounting for half of all publications. These figures are consistent with other studies in Australia and around the world. For example, Berrell (2000) in a study of a newly restructured faculty of education in universities found that 28 per cent of full-time lecturers showed no research activity, and noted that this corresponded closely with data from the United States. Similarly, Barnett and

Illwick (2005) concluded that their best estimate for the percentage of staff who publish little or nothing is about 20 per cent. They also found two distinctive grouping of lecturers: those who were oriented towards teaching and those who were oriented towards research, with roughly equal numbers in each group. The two groups deployed their time between research and teaching in quite different ways, and research-oriented staff were more likely to see teaching as competing with research time.

McInnis (1998) in his survey of staff in Australian universities found that 26 per cent saw themselves as primarily oriented to teaching and 28 per cent primarily as researchers. The teaching groups were older (77 per cent over 40 years), spend most of their time with undergraduates and were more likely to hold negative attitudes to their careers and working conditions. The research groups were younger, more ambitious and less interested in collegial work practices.

The essence of research is for the findings to be utilized but firstly research findings must be disseminated amongst the university community and to stakeholders outside the university. This is made possible with the increasing use of ICT and electronic storage facilities for preservation of knowledge. As noted by the Association of Public and Land Grant Universities (2009), without effective and ongoing dissemination of knowledge, the efforts of researchers and scholars are wasted but Nigerian public universities have largely failed.

In a study on utilization of research findings from Nigerian public universities by Archibong et al (2010) the following reasons were found to account for under utilization of research findings from universities: Poor reward system for

researchers; insufficient funding; non-demand for research findings by the government; indifference of organized private sector to university research and relevance on foreign input/consultants.

They further accentuates that it is largely as a result of failure to meet the criterion of making important advances in knowledge that Nigerian universities are currently extremely low in the world rankings and also low in the rankings of African universities. Akuegwu, Udidia and Bassey (2006) concluded that this low status position of our universities may act to inflict mortal wound on the attitude of lecturers towards quality research. In addition, there is poor remuneration for university lecturers, which makes it difficult for them to fund researches privately. Available facilities seem inadequate to universities.

### **Academic Staff Professional Development and Teaching Efficiency**

Wood and Bennett (2000) and Gay and Howard (2000) defined professional development as an on-going process of education and training that takes place in either external or work- base setting with the sole aim of enhancing the productive capacity of professionals. Similarly Guskey (2000) refers to it as those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students. High quality professional development is considered extremely crucial to educational improvement.

Professional development in a broad sense refers to the development of a person in his or her professional role and it includes formal experiences such as attending workshops, seminars, conferences, professional meetings and mentoring, and informal experiences such as reading professional publications and watching or listening to documentaries related to an academic discipline (Ganser 2000).

Buttressing the importance of professional development, Onyene (2000) emphasized that the importance of professional development is more evident with the need to respond to rapid and continuous change, new technologies and more procedures. This has prompted lecturers in the universities to face the challenges of learning new skills which will enable them maintain their proficiency level or prepare for future promotion and the need to recognize future prospects of their job.

Continuous Professional Development (CPD) for teaching and learning is essential for ensuring continuous quality improvement and professional competence of educators. However, more specifically; the purpose of all CPD is to promote effective performance at work. Ejioogu (2000) further accentuated the importance and need for Staff Professional Development thus

“organizations are in constant flux; ever-changing, willing and unwilling, the staff including the management has to be trained and retained on a regular basis or else they would atrophy and shrivel up.”

Training has therefore become one of the most critical aspects of an employee's effectiveness. Emphasizing the importance of staff training and development (STD), Awopegba (1999) opines that while education provides the individual staff with the basic knowledge, skills and attitudes to qualify him or her for a given position, training improves his/her competence to effectively perform in that position.

The ultimate realization of educational goals in the views of Aderalegbe (1982) depends to a large extent on the quantity and quality of lecturers. Chapman (1994) on his part observed that poorly prepared lecturers find it difficult to face the challenge of classroom which manifests in the lack of skills to prepare and deliver content. Professional development has great implications on lectures' job performance and research output. Ejiogu (2000) asserts that the success of any education programme depends on the professional competence of its lecturers as their competence contributes to pupils' achievement levels. Similarly, Case (1985) in his study on employee job performance found that training is significantly related to improved job performance. Othman and Dahari (2011) conducted a study on professional development among lecturers in selected Malaysian public universities. The results of the finding reveal that the opportunities to participate in in-service professional development programmes were inadequate to fulfill the professional needs of novice lecturers or lecturers in the area of teaching and learning. This may be attributed to financial constraint. However, the study reveals that participation of lecturers in professional development has minimal change to teaching practices. This implies that professional development does not enhance teaching effectiveness.

Training of lecturers would enable the lecturer to be acquainted with other ways of doing the same thing to achieve better results and bring about collective advantage to the school or department as the case may be. Onyene, Ikebude and Udume (2007) advised that organizations including schools should have built-in mechanisms for ensuring continuous staff retraining programmes as a way of regenerating school and social organizational norms and values.

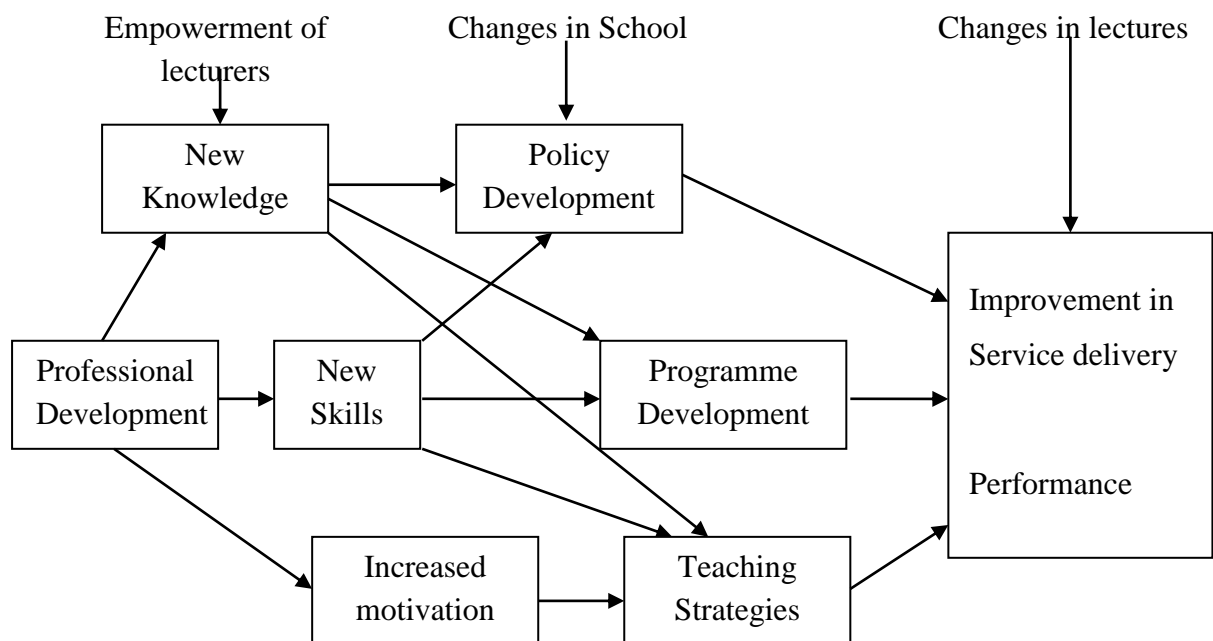
Sparks and Hirsh diary's (as cited in Othman & Dahari 2011) affirm that professional development entails three main characteristics. Firstly, it is an intentional process based on a clear vision of purposes and planned goals. It has to begin with a clear statement of worthwhile purpose and goals which can be calibrated and tracked. Guskey (2000) affirms that among the causes that contribute to the failure of professional development are the lack of focused planning as well as the misconnection between the course and the instructional practice. Therefore, a well-designed, thoughtful planned and adequately supported professional development is necessary ingredient in all educational improvement efforts. The second characteristic of professional development is that it is an ongoing process. This is simply because of the dynamic nature of education and the continuous expansion of knowledge. Thirdly it is a systematic process which incorporates change over an extended period of time and at all levels of the organizations. An improvement made in one area may be diminished by concurrent problems in another, unless these are simultaneously addressed. Furthermore Sparks and Loucks Horsley's diary (as cited in Othman and Dahari 2011) described seven major modalities in professional development as training, observation or assessment, involvement in a development process, study groups, inquiry or action research, individually guided activities and

mentoring. Guskey (1996) suggested that a professional development program should combine all modalities in a thoughtful and appropriate manner in order to increase its effectiveness and preserve its core characteristics.

Eraut's diary (as cited in Johnson, 2010) identified four interactive models of professional development which are critical to effective performance. He refers to them as model of skill acquisition, knowledge development, clinical decision and cognitive continuum.

Onyene (2000) gave a conceptual (in graphic form) overview of the roles of professional development in teachers and school performance.

**Figure 1: A Conceptual Framework of Professional Development and Lecturer's Performance**



Adapted from Onyene (2000)

A conceptual overview of the roles of professional development in school improvement

The above figure explains that professional development gives rise to new knowledge, skills and increased motivation, a combination or sole impact of which influences policy development programme, program re-articulation and methodology. Ultimately such changes improve lecturers' retention, service delivery and general performance.

Quality assurance as noted by Adepoju and Akinola (2010) therefore, can only be achieved if the inputs such as the lecturers are of good quality, to be able to cope with the challenges of the modern world of globalization and technological advancement. Professional development is expected to improve the efficiency of the lecturers in the performance of their roles of teaching, research and community service for the purpose of producing globally competitive entrepreneurial graduate who are relevant to national development.

### **Information Communication Technology (ICT) and Lecturers' Efficiency**

University education in Nigeria faces the challenge of globalization and information age for the transformation of the academic system from the traditional role of teaching, learning, research, and development technologies to those driven by the ICT which is the latest revolution changing all aspects of human endeavour. ICT is one of the most important driving forces promoting economic growth. A good number of scholars have expressed the belief that ICT integration in education would yield bountifully. (Adeogu, 2001; Daniel, 2002; Yussuf, 2005; Wilderotter, 2007).



ICT is a generic term referring to range of technologies that are applied in the process of collecting, storing, editing, retrieving and transferring of information in various forms (Olakulehin, 2007). A personal computer is the best known example of the use of ICT in education, but the term multimedia is also frequently used. Multimedia can be interpreted as a combination of data carriers, for example video, CD-Rom, floppy disc and internet and software in which the possibility for an interactive approach is offered.

Chen and Kee (2005) maintained that ICTs are the backbone of the knowledge economy which in recent years has been recognized as an effective tool for promoting economic growth and sustainable development. ICTs dominate research and educational activities in the developed world. It is argued that ICT is intended to serve as a means of improving efficiency in the educational process and effect changes in the teaching methodology, assessment of learning, student tracking, communication and evaluation (Weeler 2000). The National Policy on Education (2004) places emphasis on the provision and utilization of Information Communication Technology (ICT) when it states that because of the 'prominent role of ICT in advancing knowledge, and skills necessary for effective functioning in the modern world, there is urgent need to integrate ICT into education in Nigeria'. Two reports by the World Bank Information and Communication for Development Report, (2006) and World Economic Forum (Global information Technology Report 2005-2006) underline the fact that economic development depends on overall progress in a country's ICT's sector.

Buttressing the importance of computer technology, Koellinger (2006) conducted a study on the impact of ICT on corporate performance, productivity and employment dynamics. It revealed that ICT usage and high levels of employee's skills complement each other. Also, more advanced users of ICT are more likely to experience higher productivity. These results suggest that intense ICT usage combined with innovate activity are positively related to productivity growth at the firm level. Manir (2008) emphasized that internet has simplified the research process. He opined that the internet is a medium for academic communication, collaboration, interaction and electronic publishing. If internet is used properly it will break down barrier of dependency on traditional resources and the information gap which exists.

A lot of challenges confront the application of ICTs in education in Nigeria. These challenges according to Olakulehin (2007) include limited ICT infrastructures (in terms of facilities and competent staff), poor Internet connectivity, the highly prohibitive cost associated with ICTs, lack of maintenance and technical support staff as well as poor electrical energy.

The relevance of ICTs in the educational process in Olakulehin's view can be seen in two ways: ICTs for education and ICTs in education. ICTs for education refers to the development of information and communication technology specifically for teaching/learning and research purposes, while ICTs in education involves the adoption of general components of information and communication technologies in the teaching/learning and research processes. ICTs help to accentuate lecturers' research activities. With the Internet, lecturers are able to

bring research to the bedroom. Internet helps to create autonomous and critical researchers and this has brought a lot of knowledge to the classroom through the teaching/learning processes. Hence, UNESCO (2002) in Sofolahan (2005) emphasized better use of information technology to boost the quality of teaching and learning since it shifts interpersonal relationships beyond the classroom.

Authors such as Long (1994) and Ogu (2003) believe that success in ICT adoption and usage basically requires easy access to them,. Access is beyond identifying the number of computers and types available, but also has to do with the ability of the personnel to obtain the technology during and even outside regular working hours. Omenyi, Agu & Odimegwu (2007) reported that in Nigeria, access to ICT resources is mostly limited even in universities, polytechnics and colleges of education. Monday and Esoswo (2008) reported in their study on the availability and accessibility of ICTs in the rural communities of Delta State, Nigeria ,that only a relatively small numbers have access to computers, televisions and radios while virtually none have internet access. Similarly, Okobia (2011) noted that audio visual materials such as televisions, computers, overhead transparencies video recorders are not just there at all.

Ray (1999) reported that the National Centre for Educational Statistics (NCESS) showed that as far back at 1997,78% of US public schools had internet access and that 20% of all classrooms had internet access. A survey of Indian teachers revealed that computers were rarely used for instructions. Most schools had internet access though students' access was limited Anderson and Ronnkvist (1999). Increased access to and use of the internet is making a unique contribution to the teaching and research process.

Nigerian government has giving attention to ICT which burgeoned with IT policy of 2001. Even though the targeted ICT literacy for all staff in the year 2005 has not been achieved. Mac-Ikemenjima (2005) reports of the various ICT for education initiative are being coordinated by agencies of government of Ministry of Education which are expected to meet with academic challenges in Nigeria Universities. These include Nigerian Universities network (NUNET) Project, National Education Academic and Research Network (NEAR Net), the Teachers' Network (Teach Net) project, National Open University, National Virtual (Digital) Library. Nigeria University Commission (NUC) is working on Virtual University Libraries where only lecturers with ICT competence can benefit meaningfully.

In October 2006, the Nigerian Communication Commission (NCC) Abuja, organized a training workshop for all higher institution of learning on Digital Appreciation. For the programme, ten (10) representatives from each higher institution were trained on ICT and the application on teaching and learning process. Global investment in ICT to improve teaching and learning in schools have been initiated by many governments. For example, in United Kingdom, the government spent ₦2.5bn in 2008-09, in United States, the expenditure was \$ 10.7 billion in both k-12 schools and higher education institution in 2009 and in New Zealand government spent over \$410 million yearly on schools ICT infrastructure (Buabeng- Andoh 2012).

Despite all these investments on ICT infrastructure, equipment and professional development to improve education in many countries, Gulbahar's diary (cited in Buabeng-Andoh 2012) claimed that huge educational investment have produced

little evidence of ICT adoption and use in teaching and learning... Evidence suggests that education sector is investing heavily on ICT but ICT adoption in education sector lagged behind. Nigeria is no exception. Studies carried out on Teacher ICT competence show teachers' ICT competence to be below expectation. (Yusuf 2005; Olulube, 2006; Agu, Omenyi and Odimegwu, 2007). The challenges of the school system in the 21<sup>st</sup> century will not be achieved if the demands of ICT is not met.

### **Teachers' Remunerations/Incentives and Research Output**

Incentive is a reward for service to an organization and it determines the extent to which an organization can attract, motivate and retain employees with the needed skills, knowledge and technical know-how. It is the totality of the financial and non financial rewards that the employee (teacher) gets in return for services rendered (Odunwaye, 2000 and Onyene 2001). As stated by United Nations Development Programmes (UNDP) (2006), incentives are external measures that are designed and established to influence motivation and behaviour of individuals, groups or organizations. Researchers have shown that introducing incentives can enhance performance. This is true with respect to any setting whether it is a healthcare institution, industry, office or school (Dixit, 2002). Incentives can serve several functions, such as initiating action, changing or suggesting goals and intentions, and ensuring commitment (Havard University, 2006; Lazear, 2000). According to Onyene, these incentive packages include; commensurate salary, pension, promotion and promotability, esteem and propensity to rise, and professional development.

In his scientific management theory, Taylor (as cited in Akpan, Ekpiken and Okon, 2007) sees the worker as an economic man that can be induced to work effectively and efficiently through economic incentive. He therefore conceives money as a very important factor for motivating employees to achieve higher productivity. These conditions of service and welfare packages help to motivate staff to work harder in the universities. They also promote job satisfaction for staff. The overall effect of these provisions is the maximization of staff productivity and quality assurance.

In all kinds of education, teachers have a key position to play. No measures are possible to improve education if the teachers are not thought of. Ojo (2008) reported that the quality of the education system depends on the quality of its teachers. Similarly, Ejiogu (1990) is of the opinion that quality of education in any given society depends considerably on the number and the quality of its personnel. Highly motivated and need satisfied teachers can create a good social, psychological and physical climate in the classroom. Exemplary teachers appear able to integrate professional knowledge (subject matter and pedagogy), interpersonal knowledge (human relationships) and job attitude (ethics and reflective capacity) when he or she is satisfied with the job (Collinson, 1996; Connell & Ryan, 1984; Rosenholtz, 1989).

A study conducted by Mwangi and Mwal (2002) revealed that factors which inhibit positive job attitude and performance of teachers include, inadequate pay, poor career structure, lack of promotion opportunities, poor school facilities, inadequate school disciplinary policy, attitudes and behaviour of the school

head, among others. The researchers concluded that teachers' job attitude and performance could be improved by giving them pay that matches inflation, job tenure, improved teaching facilities, promotion opportunities, managerial responsibilities and administrative support.

UNDP (2006) affirms that non monetary compensation and allowances play a major role in total compensation-benefits such as housing allowances, official cars, pensions, and other retirement benefits often form a large part of incentive packages. Absence of these compensations can contribute to a culture of absenteeism, alternative employment, rent seeking and low productivity.

UNDP furthermore, asserts that, pay (salaries) as one of the incentive packages is fundamental to raising employees' performance, but it should be viewed as a necessary but not sufficient factor. Evidence points to a range of non-material incentives such as job content and career development.

Many previous research findings have established positive relationship between incentive packages, attitude to work and job performance. Fabiyi (2000) reported that salaries, promotion prospects, recognition and respect for teaching/welfare package, staff development scheme and office accommodation are significantly related to teaching effectiveness. Ejiofor (1986) and Nwachukwu (1988) reveal that workers can only put in their best if their needs are satisfied.

In other similar studies by Imam (2003), Ntukeden (2005), Ezenwafor (2006), Osifila (2011) , it was agreed that teachers motivation to work enhances their job performance. Teachers motivation through incentive packages could be referred

to as those factors that operate within the school system which if not made available to the teacher would hamper performance, cause stress, discontentment and frustration, all of which subsequently effect quality education.

Teachers should be motivated in order to bring out the best out of them. There is a strong link between lecturers' motivation and performance. The teaching industry has been made unattraction in terms of remuneration and incentives. Ali's diary (as cited in Aigboje, 2007) has observed that poor salaries have been the major bane of the Nigeria University system. He observed that in the year 2000 about 170 Nigerian professors were in England and Wales. There a professor earned about \$60,000 per annum, and equivalent of ₦9.9m as at April, 2002 at Inter-bank rate of ₦165.00 to \$1.00.

Research has pointed to the importance of motivation of teachers towards their jobs (Carron and Chau, 1996; OECD, 1994). In a research report on teachers in developing countries, undertaken by Voluntary Service Overseas (VSO 2002), one of the main findings was that teachers' motivation was fragile and declining. The report noted that there is a strong link between teachers' motivation and performance and education quality, but improving teachers' motivation is not uniformly prioritized as a major concern of national and international policy makers. The report went further to add that addressing the factors that reduce teachers' motivation should be a major concern of policy makers. This will create conditions for the success of other education interventions.



Similarly, among the challenges facing lecturers in Partnership for Higher Education in African (PHEA) countries Collingwood (2003) reported that poor remuneration, inadequate resources, lack of qualified researchers and lack of adequate research funds among others have stunted the growth of research in these universities

Specifically, Jubril's diary (cited in Collingwood 2003) asserts that in Nigeria, though the government has improved the salaries of faculty, the salaries of a full professor is still low by African standard. It is alleged that these unfavourable remuneration packages are responsible for the migration of Nigerian academics and other professionals to other countries, notably South African, Botswana, Saudi Arabia and the U.S. Spending on research is among the lowest in the world as a percentage of Gross National Product.

### **Constraints to Developing Performance Indicators in Tertiary Education**

There are a number of problems of developing performance indicators in tertiary education which is a measure of service delivery. According to Chapman and Carrier (1990) it is difficult to identify an indicator of quality because "education is a multi-inputs, multi-output system with a poorly defined process of production". Education outcomes are born of a long process involving the transformation of allocated resources into improved standard of education. Analyzing the supply of education entails looking at the inputs (planned and actual), dedicated to education, the process by which the inputs are utilized, the output generated by service providers, and the outcomes that result.

Soutar and McNeil (1996) were of the opinion that a particular problem is that, in which performance indicators tend to become measures of activity rather than true measures of the quality of students' educational service. For instance, experience performance indicators published in the report of the committee of Vice-Chancellors and Principals/Universities Grants Committee in the UK as reported by Hattie (1990) focused on easily quantifiable factors, such as absolute numbers of people in the system (students and educators), people ratios, flows of money into the system and their application within the system. These performance indicators may have something to do with the provision of tertiary education, but they certainly fail to measure the quality of education provided in any comprehensive way. As Hattie (1990) has suggested, they are correlates "which are only partially related to outcomes".

Decision makers and analysts choose different points along the service delivery chain to identify indicators that measure the effectiveness of an education system. Some consider inputs as evident of effective service delivery. These inputs may compose material inputs, such as blackboards, utilities, and textbooks, and less tangible inputs, such as the curriculum, teacher quality, pedagogical practice, classroom organization, and the school management structure (Glewwe 2000). Although some analyses of education quality look at planned inputs, such as budget allocations or teacher hiring plans, most investigate, disbursed inputs, such as education expenditure, and realized inputs, such as the number and size of schools or other school characteristics (Glewwe 2000). Other analyses gauge effectiveness based on the process by which

officials transform allocated budgets into realized inputs; they, therefore, measure inefficiencies in management, such as the leakage of funds and teacher absenteeism. Alternatively, outputs, such as enrollments, student attendance, school completion rates, and class repetition rates, may be used as indicators of quality.

World Bank (2008) noted that some analyses use outcomes, such as learning achievement or private returns to education, as measures of the effectiveness of education provision. These sorts of studies are rarely simple tabulations of students performance; they usually also investigate correlates of achievement that relate to inputs, processes, or outputs. However Glewwe (2002) was of the opinion that individual studies tend to focus on a few indicators rather than a wide range, depending on the user's primary purpose and the stage of economic development of the country under study, and that certain types of indicators are measured more frequently than others. Users interested in developing countries, for example, tend to focus on the measurement of inputs and consider outputs to a lesser degree, whereas users interested in developed countries tend to devote more energy to the measurement of outcomes and processes.

Chalmers (2008) outlines illustrative quality indicators in use internationally, at national, institutional, department and individual levels. This is depicted in table 5 below.

**Table 5: Illustrative indicators commonly in use at national, institutional, department and individual levels. Chalmers (2008)**

<b>Level</b>	<b>INPUT</b>	<b>OUTPUT</b>	<b>OUTCOME</b>	<b>PROCESS</b>
National	Resource provision, Infrastructure, Curriculum Committees, Staff qualifications/ experience, Student/staff ratio, Enrolment rates by type of student, Explicit goals and standards.	Graduate employment data, student progress rate, Retention rate, Graduation rate, Research higher degree productivity rate.	Graduate employment status, Evaluation of teaching Performance, Student feedback, Student acquisition of Generic skills, student engagement.	Appropriate balance of staff time in teaching, research, administration, consulting and community activities. Active and collaborative learning Study/work environment.
Institution	Enrolment rate, student/staff ratio, Provision of support services, Teaching experience/ qualifications.	Graduate employment rate, Retention rate, Graduation rate, Citation/publication rate of research.	Stakeholder satisfaction/engagement Value of graduates, Quality of Research.	Mission statement, Academic innovation, and creativity, Visionary leadership, Accommodation for student/staff diversity, Link research to teaching, Learning community, Institutional climate.
Department / Program	Enrolment rate, Student/staff ratio, Teaching experience/ qualifications, Explicit learning outcomes.	Retention rate, Citation/publication rate of research	Stakeholder satisfaction/ engagement Value of graduates Quality of research	Accommodation for student diversity, Student centred approach, Use of current research in informing teaching and curriculum content, Specific, continuous and timely feedback, Community engagement/ Partnership.
Individual Teacher	Teaching experience, qualifications, Explicit learning outcomes.	Graduate employment rate, Student progress rate, Graduation rate.	Student learning outcomes	Accommodation for student diversity, Student centred approach, Communication skills, Possession of desirable teacher characteristics, Specific, continuous and timely feedback, Use of current research in informing teaching and curriculum content, Community engagement/ partnership.
Student	Staff teaching qualifications, Resource provision, Class size, Student background characteristics, Explicit student learning outcome statements.		Student learning outcomes, Student satisfaction, Graduate skills, Student engagement, Student community, Motivation for life-long learning.	Social involvement, Facilitation and valuing of diversity, Diversity interactions, Learner-centred environment, Peer collaboration, Student engagement.

Chalmers argues that although qualitative outcome and process indicators are more insightful and accurate in measuring the methods and quality of teaching and learning, they are not often utilized as quantitative input and output indicators are more easily measured. This has resulted in an inappropriate dependence on less informative, quantitative, input and output performance indicators. The more frequent use of these quantitative indicators (particularly input measure) aligns with a system overly removed from the objectives of higher education.

Each type of indicators has different characteristics and objectives, but all are operationally related. Successful indicator systems, whether at national, institutional or campus levels, incorporate all four types of indicators to inform their decision making and quality assessments. The present study focuses mainly on the input and process indicators as these guarantee quality output or outcome.

### **Review of Empirically Related Studies**

Uche, Okoli and Ahunanya (2011) conducted a study on infrastructural development and quality assurance in Nigerian higher education. The study adopted a descriptive survey research design. Two thousand (2000) final year students (participants) were randomly selected for the study. On adequate provision of classroom based materials – furniture, provision of light and power and other learning aids, the study revealed an aggregate mean scores of 2.39 for male students and 2.44 for female students which were less than the

criterion mean of 2.5. On available physical facilities - classroom buildings and other multipurpose houses, provision of library and library resources, student hostels, staff residential porters, ICT centres and facilities, the findings indicated low level of quality infrastructural development in the higher institutions. The available facilities were not enough, not adequate in terms of quantity and quality, not maintained, not safe and not students' centered. Thus the quality assurance of these facilities was not guaranteed as they could not match global standards.

Similarly, Adegbesan (2007) carried out a research on availability and adequacy of school facilities in Nigerian vocational and technical colleges. The study design adopted was descriptive survey research design, on a sample of 211 teachers from five (5) technical colleges in Ogun State. The findings indicated that the availability of school plants in technical colleges was on the high side, nine (9) out of fifteen (15) were mentioned to be available by teachers; these include staff offices, students classrooms, workshop and equipment, recreation and sports facilities, site expansion, library, vehicles, hostel facilities and water facilities. The teachers also considered the following as not available: science laboratory, computer and technical materials. It was confirmed that most schools did not have computer systems and technical aids.

The study also discovered that only three (3) school plants out of fifteen (15) were adequate for teaching and learning: these include; staff offices, workshop/equipment and water facilities while twelve of these facilities were

not adequate to teaching and learning. These include: students' classrooms, science laboratory, computer facilities, recreation/sports faculties, site for expansion, library, school vehicles, hostels facilities, guidance and counseling, lighting/generating set, laboratory equipment and technical aids.

In another study by Archibong and Okey (2006) on students' assessment of lecture delivery quality in university of Calabar and Uyo, a descriptive survey research design was adopted. A total sample size of 1,000 students was used in the study. The result of the study revealed that 45.2% of the participants indicated that adequate number of lecturers were regular to class; 34.4% assessed a highly adequate number of lecturers punctual to class, while 13.5% and 6.9% of the students affirmed a fairly adequate and inadequate number of lecturers regular to class respectively. This finding implies that a greater number of lecturers were regular and punctual to class for their teaching engagement, while a lesser percentage of them were not.

In a study carried out by Akudo (2006) on efficient staff development and utilization for quality assurance in higher institution in Anambra state, a sample of 105 female and 210 male lecturers from five federal and state tertiary institutions in the state were selected through proportionate stratified random sampling technique. Findings on staff development indicated that lecturers should be given the opportunity to attend conferences, seminars, and workshops in order to grow professionally.

Onuh and Ofojebe (2007) carried out a study on the role of ICT in enhancing quality teacher education in Nigeria. Using descriptive research design on a sample of 600, comprising of teacher education students, their finding was that, those teacher education students did not have adequate knowledge of ICT programmes available to improve learning processes. This implied that they equally have limited knowledge about ICT usage.

On the same topic, Uche (2006) researched on level of internet usage among staff and students of the University of Port Harcourt. The population of the study comprised of administrative staff, lecturers, graduate students and final year undergraduate students. A sample of senior administrative staff (30%), lecturers (30%) and students (10%) of the university were randomly selected. The result of data analysis revealed that on a general note, the regularity of internet usage for various purposes was low for all categories of participants. On the second dimension to the level of internet usage which involves determining the usage frequency, administrative staff had highest surfing frequency of 2 hours (weighted mean score = 3.26), followed by the students, while lecturers had the least surfing frequency.

In another study on evaluation of the impact of ICT diffusion in Nigeria's tertiary education by Achimugu, Oluwagbemi and Adeniran (2010) the following findings were made: ICT provided access to remote learning resources; ICT had broken the barrier of distance in knowledge acquisition;



ICT had altered the functions of libraries and changed the role of librarians; There was an increasing prominence for ICT inclined institutions; and ICT diffusion had led to the efficiency of institutions of distant learning.

The study corroborates the findings of Olisaemeka (2011) on computer technology usage and teaching efficiency in tertiary educational institutions in Lagos State. The rate of computer usage by Nigerian lecturers was low. According to the findings, thirty seven per cent of the lecturers had low usage and 87% either use computer sometimes or at a low pace. Only 13% had high or very high usage of computer. A few lecturers (23%) operate computers by themselves, while most (about 77%) depend on technical assistants.

A study titled “Technology in education, are lecturers ready”, which is a case study on e-distant learning at university of technology Mara, Malaysia found that the lecturers’ knowledge in using technology was relatively low and rate of usage also low (Hapiza and Zawiyah, 2009). A similar study in Cape Peninsulas University of Technology, Cape Town, South Africa reiterated on the low literacy level and low rate of usage by lecturers (Carina America Department of Management 2006). In addition, a study on using ICT for secondary education development in Lagos State revealed that computer usage by the teachers was very low and cannot ensure sustainable educational development (Onyene, Oshionebo & Olisaemeka 2009) .

In a survey on the trends in quality assurance in Nigerian universities since 1960, 11 former vice chancellors, nine emeritus professors and 18 serving professors who had offered service for upwards of 20 years were asked to rate the quality assurance process of the Nigerian university system over ten year intervals from 1948 to 2010. The clusters of interest were student admission process, external examiner system, accreditation process among others. The external examiner system was reported to be strong and respectable from 1960 -1990. From 1990 to date, a significant drop in quality rating was recorded to a low of 63%, 48% and 40% for 1990, 2000 and 2010 respectively. The survey samples adjudged the visitation process in Nigerian university system from when data was available (1980) to be of good quality (mean of 75%). The accreditation process was rated high (73% by 2010). The process of admitting students was also adjudged, on the average, to be above 80% in quality between 1948 and 1960, 54% between 1970 to 2000 and 66% for 2010.

### **Theoretical Framework**

Theories relevant to this study are social system theory and Total Quality Management (TQM) principles and strategies.

#### **The Social Systems Theory**

The basic concept of the social system theory was derived by Parsons (1951) but its application to school administration was delineated by Getzels and Guba (1957). A social system is a system in which the components are people.

The systems approach to management attempts to view the organization as a unified, purposeful system composed of interrelated parts. A system is a series of interrelated and interdependent parts in which the interaction or interplay of any of the parts affects the whole. It is a set or assemblage of things connected, or interdependent, so as to form a complex unity; a whole composed of parts in orderly arrangement according to certain scheme or plan. Every organization is a system composed of many parts (divisions, units, departments etc.) Each of these parts can never be greater than the whole organization. Each is a sub-set which invariably must cooperate with, as well as needs the cooperation of every other part or sub-set in order for the organization to function maximally, effectively and efficiently.

Buttressing this view Ejiogu (2010), asserts that a system is a set of interacting elements... “the component on which one may temporarily focus is understandable only in relation to other components and the total systems functions or operations”. A whole cannot be understood without an understanding (analysis) of the parts that make it up just as the parts of the same organization cannot be understood apart from their relationships to each other i.e. Synthesis closely related to the systems concept is that of holism, the view that all systems physical, biological, and social are composed of interrelated subsystems. A system as an organized unitary whole composed of two or more interdependent parts, components or subsystems and delineated by identifiable boundaries from the environmental suprasystem.

According to Peretomode (1996), a social system is an aggregation of individuals and institutional organizations located in various degrees of interdependence as a permanently organized unit of the social order. It is a system in which the components are people. The behaviour of an individual is a function of two dimensions - psychological and sociological dimension.

The basic assumptions of the social system theory include:

- A social system is an open system.
- It is people oriented. Organization will cease to exist if there are no people to run them. These people are in purposive interactions which are interdependent.
- It is goal oriented. All efforts in any organization are directed towards a common goal.
- It is structural and bureaucratic to some extent.
- It is normative and idiographic in nature.

Systems can be considered as either 'closed' or 'open'. Closed systems are those, which, for all practical purposes are completely self supporting, autonomous, enclosed and sealed from the outside world. The systems function without the consumption of external resources. On the other hand, an open system are those which do interact with the environment, on which they rely upon for obtaining essential inputs and for the discharge of their system outputs. This system exchanges matter with the environment for survival, consumes and exports resources to the environment and most continuously deal with the environment. A key feature of open system is interdependence on the environment, which may be relatively stable or relatively unstable at a particular point in time.

An organization as an open system is dynamically related to its environment from which it imports or derives various inputs or energy. These are in turn transformed (i.e. operationalized) and released as outputs (goods and services) into the environment. An open system is in continuous interaction with the environment thereby achieving a steady state or “dynamic equilibrium”. Such an organization is therefore, engaged in a continuous recycling process.

As open system, managers in all organizations have to constantly and rigorously monitor their organization’s environment which are invariably the source of their inputs as well as the consumers of their outputs. An organization’s environment may be external and/or internal. The external environment which is the general environment is also called societal environment. They include international, economic, the technological, the socio-cultural and political-legal. The internal environment of any organization refers to the organizations culture. It comprises of the set of values and beliefs that help its members to understand what the organization stands for, how it does things and what it considers important. Managers must learn how to develop, reinforce and sustain the desired culture in their organizations.

#### Basic Characteristics of an Open System

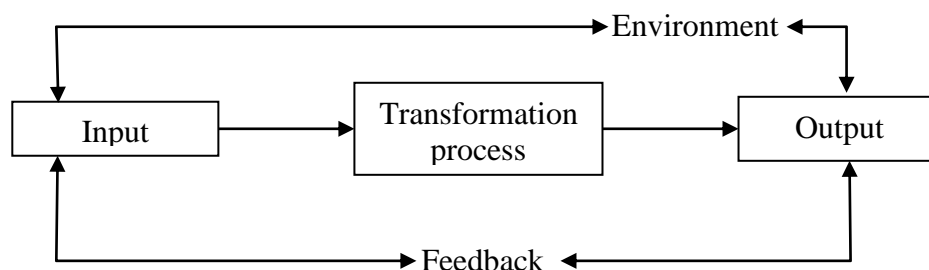
- **Inputs:** these are the resources, the organization needs in order to function. They include human, material and financial resources from the environment;

- **Through-put/conversion or transformation process:** this is the operational aspect of a systems design. It is the interaction of the individuals in the organization with other inputs in order to transform them into outputs e.g. teaching activities in schools;
- **Output/outcome:** these are the results or consequences from the transformation process. In the school system it refers to the graduates of the institution exported into the supra-environment such as labour market;
- **Feedback:** this is the information that one gets with regard to the actual performance of the system. Such information gives clue to the future functioning of the organization and enables the system to correct deviations;
- **Synergy:** synergy is the principle which asserts that two or more persons or two or more units can achieve more when they are working together than when they work individually in isolation of the other(s); and
- **Equifinality:** an open system do not have to achieve their goals in one particular way. This concept asserts that the same goal can be achieved through diverse means and methods. As Kast and Rosenzweig (as cited in Ejiogu 2010) assert that the concept suggests that the manager can utilize a varying bundle of inputs into the organisation, transform these in a variety of ways and achieve satisfactory output.

The school (all educational institutions) is more or less an open system within a larger society. The school as a social system is an assemblage or aggregation of individuals and institutional organizations located in an identifiable geographical locality and functioning in various degrees of interdependence as a permanent organized unit of the social order. The school is made up of many subsystems such as technical subsystems (teaching- learning process); the managerial/administrative subsystems (governance); the structural subsystems (units, departments and faculties); and the psycho-social subsystem (interpersonal relationships). If any of these subsystems fails to operate well, every other subsystem will be adversely affected. All the subsystems must be harmoniously integrated with one another with the suprasystem to maximize organizational effectiveness and efficiency.

As an open system, the school receives inputs such as pupils, money, materials and information from the larger society, it then transforms or processes these into outputs of services (educated human beings) for the good of its members and the society at large.

**Figure 2: Basic Open System**



*Source: Onyene (2000)*

*The Nature of Formal Organisation*

Onyene (2000) identified six variables involved in the structural and formational character of any organisation as a system. These are: set goals; resource input; through-put or transformation subsystem; feedback; the overall output; and the supra-system called environment.

A social system is made up of two dimensions namely, the nomothetic and ideographic dimensions. The nomothetic dimension of the social system is that which renders behaviour law-like, orderly and predictable. It is therefore the dimension that ensures that behaviour conforms to the norms of society. According to the Getzels and Guba, the nomothetic dimension consists of three interrelated conceptual elements, namely; institution, role and expectation. Institutions are sub-systems of a society. Each institution is made up of roles. Each role is associated with a particular set of expectations.

The idiographic dimension also refers to as personal dimension is considered as the psychological level of analysis of social systems. It consists of three interrelated elements namely: individual, personality and need-dispositions. In order to understand, predict or control behaviour in a social system, such as the school, one must understand the nature and interactions of the elements of the normothetic and idiographic dimensions.

### **Total Quality Management (TQM) Principles and Its Application to Education**

The concept of TQM was developed by an American, whose name was Edward Deming after World War II for improving the production quality of goods and



services. The concept was not taken seriously by Americans until the Japanese, who adopted it in 1950 to resurrect their post war business and industry, used it to dominate world markets by 1980. Quality was seen as a national “survival” strategy to be able to export goods of high quality at low prices in exchange for food and materials. Quality was thus embedded into Japanese industry. TQM spread to other countries in the West and Europe in manufacturing. Later in the mid-1980s it was seen as a vehicle to improve commercial sector.

Buttressing the importance of TQM, Onyene (2006) postulates that the technique is one of the most appropriate scientific management principles that ensure the existence of standard, high work performance level as well as absolute conformity measures. TQM is team focus as it uses customer-driven process; effective communication and performance measurement, emphasizes target setting; and is rooted in shared vision and mission.

Corroborating this assertion, Ejiogu (2010) affirms that TQM is customer-focused, performance enhancing strategy through a strategic commitment by top management, employee involvement, materials, methods and technology, its ultimate goal being to provide improved quality of goods and services – a corporate culture of quality in every facet of the organization (including its people, processes, products and/or services). In other words, total involvement of everyone concerned, in all places and at all times.

For controlling and improving the productive process and achieving higher quality levels, Deming emphasized statistical quality control measures which include;

- Create and publish for all employees' statement of the company's mission (aims and objectives) and ensure that managers constantly demonstrate their commitment to it.
- Everyone from top management down must learn the new philosophy (i.e. of continuously improving customer satisfaction).
- Employ inspection primarily for improving production processes rather than for detecting and correcting errors.
- Ensure adequate training both of employees and suppliers (so that all parties know what is expected of them).
- Introduce participatory leadership style in order to achieve employee cooperation
- Develop climate of trust between management and employees, and between groups (including avoidance of approaches such as MBO, which is based on fear, according to Deming!)
- Develop an across-the-board approach to cooperation and teamwork.
- Provide the means to improve customer satisfaction.
- Provision of adequate training and equipment.
- Encourage education and self-improvement at every level.
- Create a climate where quality improvement is embedded in the organization's culture from top to bottom. (Cole 1993)

In view of the above, it is not surprising that Deming's approach emphasizes top-management commitment, the development of a long-term rather than short-term view towards quality, the need for managements to persist in the face of initial setbacks on the road to total quality, the encouragement of developing quality at source, and a ban on emphasizing output at the expense of quality.

Ejiogu (2010) summarized these principles as follows: prevention of errors; customer/client focus; continuous improvement through well articulated monitoring and feedback mechanisms; employee empowerment; competitive reward and recognition; continuous training and development of employees and the management as well.

Powel's diary (as cited in Babalola and Erwat 2007) combined features of TQM promoted by Deming, Juran, Crosby, and Awards and listed the following factors, which are: committed leadership; adoption and communication of TQM; closer customer relationships; increasing of training (of employees); employee empowerment; zero-defect mentality; process improvement and measurement. "Zero-defect" mentality is not 100% practicable in education because it is a service-industry moulding lives where each one is unique, unlike a manufacturing industry which produces physical outputs with exact dimensions. Education should aim at high standards, which should be considered the minimum, to be attained by learners. This should be enforced and maintained by continuous review, improvement and measurement or assessment of teaching-learning process. Leadership should be committed to

adoption and communication of TQM to all workers in the organization. There should be employee empowerment and increased training to have competent hands. There should also be a close working relationship with all stakeholders in education.

### **The Total Quality Management (TQM) and Education**

TQM is being adopted into education in many countries of the world. Examples of countries in Europe are Belgium, France, the Netherlands, Germany and Great Britain. (Babalola and Erwat 2007).

Many educators believe that the Deming's concept of TQM provides guiding principles for needed educational reform. In his article, "The Quality Revolution in Education", John Jay Bonsting outlines the TQM principles he believes are most salient to education reform. He calls them the "Four Pillars of Total Quality Management". They include:

- the principle of synergistic relationships;
- continuous improvement and self-evaluation;
- a system of ongoing process; and
- leadership.

#### *The Principle of Synergistic Relationships*

An organization must focus on its suppliers and customers, team work and collaboration are essential because they yield high-quality benefits. The concept of synergy suggests that performance and production are enhanced by pooling the talent and experience of individuals.

The student is the teacher's customer while the teacher and the school are suppliers of effective learning tools, environments and systems to the student. The school is responsible for providing for the long term educational welfare of students by teaching them how to learn and communicate in high-quality ways, how to access quality in their own work and in that of others, and how to invest in their own lifelong and life-wide learning processes by maximizing opportunities for growth in every aspect of daily life.

#### *Continuous Improvement and Self-Evaluation*

The second pillar of TQM applied to education is the total dedication to continuous improvement, personally and collectively. Within a total quality school setting, administrators work collaboratively with their customers: teachers. Self-evaluation as part of a continuous improvement process is emphasized.

#### *A System of On-going Process*

The third Pillar recognizes the organization as a system and the work done within the organization as an ongoing process. The primary implication of this principle is that individual students and teachers are less to blame for failure than the system in which they work.

#### *Leadership*

The fourth TQM principle applied to education is that the success of TQM is the responsibility of top management. The school teachers must establish the context in which students can best achieve their potential through the continuous improvement that results from teachers and students working together.

Furthermore, Powel (as cited in Babalola and Erwat 2007) combined features of TQM promoted by Deming and others and listed the following factors:

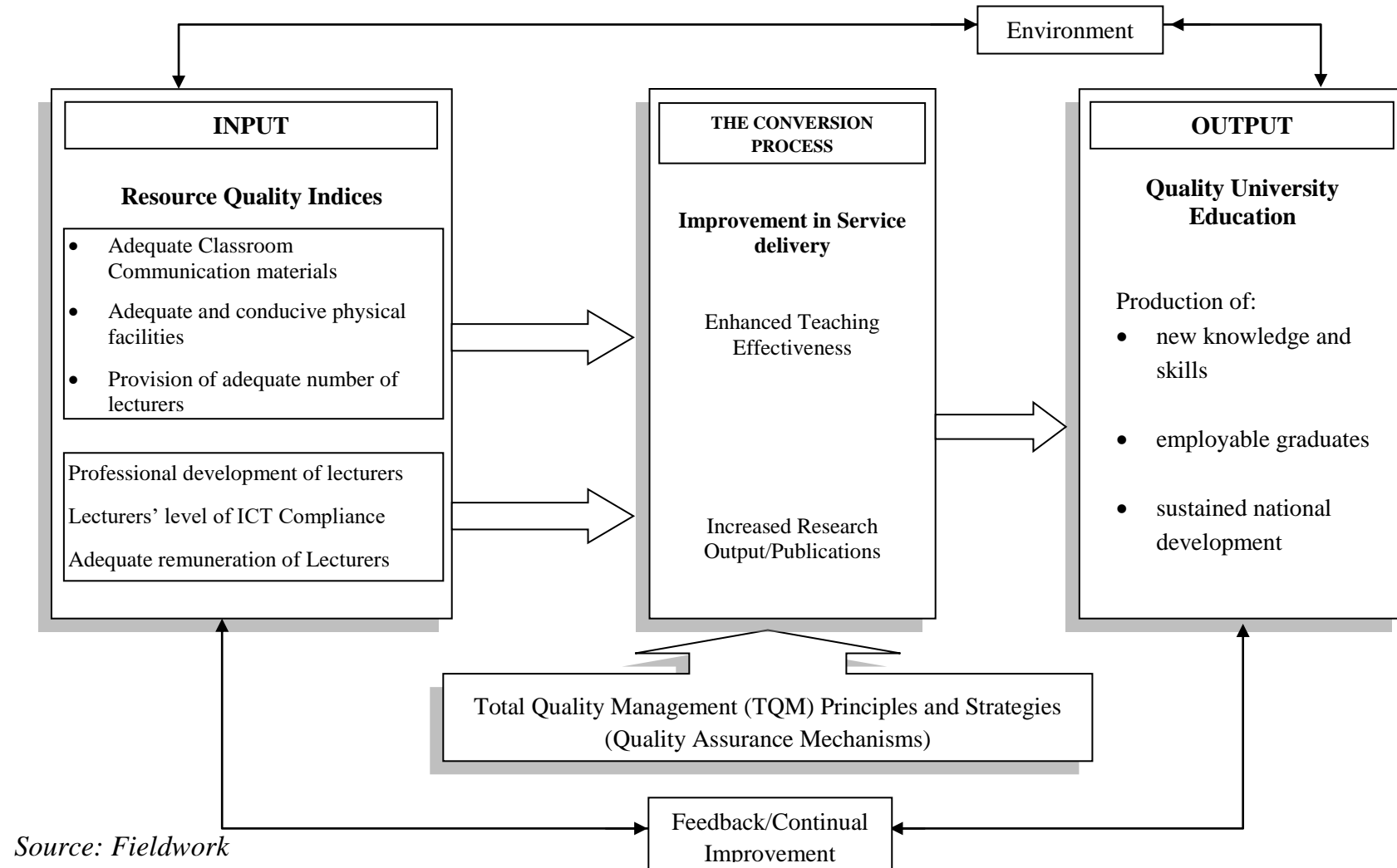
- committed leadership;
- adoption and communication of TQM;
- closer customer relationships;
- increasing of training (of employees);
- employee empowerment;
- zero-defect mentality; and
- process improvement and measurement.

### **Social System Theory Service Delivery and Quality Assurance**

A system approach to quality assurance depicts the effectiveness and efficiency of the elements of service delivery in the three dimensions of input, process and output. The input segment include human, material, physical and financial resources; the process component emphasizes effective service delivery in the areas of teaching and research, while the output dimension include the quality of graduates as well as the system's external efficiency.

## Conceptual Framework

**Figure 3: An Integrated Model of Resource Quality, Service Delivery and Quality assurance**



*Source: Fieldwork*

Figure 3 represents an integrated model of resource quality, service delivery and quality assurance in university education. The model brings into focus the dimensions of input, process and output. The input segment depicts the necessary resources for quality service delivery which is represented as resource quality indices. They include: adequate classroom communication materials, adequate and conducive physical facilities and provision of adequate number of lecturers for the various courses taught in different departments. Others are professional development, level of ICT compliance and adequate remuneration of lecturers.

The process segment which is the transformation stage emphasizes effectiveness and efficiency of service delivery in the areas of teaching effectiveness and research output. Quality input resources would in no small measure, promote and enhance service delivery in university education. The International Standard Organisation (ISO) 9000: 2000 promotes the adoption of a process approach when developing, implementing and improving the greatness of a quality management system to enhance customers' requirements.

The process approach emphasizes the importance of:

- understanding and meeting requirements;
- the need to consider processes in terms of added value;
- obtaining results of process performance and effectiveness and
- continual improvement of processes based on objective measurement.



To ensure that the organisation achieves quality standard, quality assurance strategy, which is one of the key concepts of TQM, becomes very imperative in all these dimensions. The university management embarks on a set of actions, processes and procedures in order to ensure that the education it delivers serves the purpose for which it intended. Quality assurance is therefore a planned and systematic review process of an institution to determine that acceptable standard of education, scholarship and infrastructure is being maintained and enhanced, thereby ensuring that the products of the university system conform to expected standards.

The products of the system are finally exported into the supra system. The output segment stipulates an accomplishment of long term success and goals. University education is expected to be an instrument of national development, hence, quality university education invariably produces new knowledge and skills, employable graduates and sustained economic and social development of the nation.

The feedback mechanism depicts the information which the university institution obtains from the supra system (labour market and national economic), with regard to the actual performance of their products (graduates). Such information gives clue to the future functioning of the university system as it helps to correct deviations from set standards, thereby promoting continual improvement of the system. The university being an open system, is in continuous interaction with the environment as it remains the source of their inputs as well as the consumers of their outputs.

## **Summary of Literature**

In this chapter, related literatures on resource quality and service delivery were reviewed with focus on selected universities in South East Nigeria. Articles were reviewed on quality management system and quality assurance in Nigerian universities. Accreditation was identified as the core component of quality assurance, others include university ranking, NUC monitoring exercise among others. Literature search indicated some level of non compliance to NUC minimum academic standard tone.

Also reviewed was the availability and utilization of educational resources in the area of human, physical/material and financial resources. The inadequacy in the quantity and quality of these resources most likely, as a result of shortage of fund contributed immensely to poor standard in the quality of education offered in these institutions.

The goals of university education which include manpower training and development among others, through teaching, research and development, generation and dissemination of knowledge were also explored in the literature. Quantity and quality of resources available contribute immensely to the effective and efficient performance of these roles. Performance indicators in tertiary education were also reviewed. Developing performance indicators has always been a problem as a result of the nature of education which is a multi-input, multi-output system with a poorly defined process of production.

Finally, this chapter also presented some related theories and models of social system theory, TQM principles and a systems approach to quality assurance. An integrated model of resource quality, service delivery and quality assurance was developed. The review of related studies has provided a lot of insight for the work.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **Introduction**

This chapter addresses the methodology adopted for the study. The following items were addressed: variables of the study, research design, study population, sample and sampling technique, research instrumentation, validity and reliability of the instruments; pilot study, data gathering procedures and method of data analysis.

#### **Variables of the Study**

The dependent variable in this study was service delivery which was conceptualized as teaching effectiveness and research output. The dependent variables (teaching effectiveness and research activities) were related to the characteristics in the hypotheses postulated for this study. The independent variables in this study include: adequacy of available classroom communication materials, adequacy and conduciveness of available physical facilities, lecturers strength, lecturers' professional development, extent of lecturers ICT compliance, and their level of remuneration/incentives.

#### **Research Design**

The study adopted the descriptive survey research design. The design involves collecting data from a sample through the use of questionnaire in order to answer research questions and test levels of significance of hypotheses. The design was considered appropriate for the study since it describes and interprets 'what is' and it is concerned with conditions or relationships that exist, practices that prevail, beliefs, point of view, attitudes, that are held, processes that are going on, inflicts that are felt or trends that are developing (Gay 2000 and Bryman, 2004).

## Population of the Study

The target population for the study comprised all the conventional and specialized universities established on and before 2000 (Federal and State) in South East Nigeria. It covered 2,871 lecturers and 11,920 final year students in these universities, in all the faculties. Others established after 2000 were not included in the study because they were fairly new with no substantive data. Moreover, 11,920 final year students were selected as they had stayed long in the institution and were more familiar with the ethos and values of the institution. They were therefore the best in the system to be able to access teaching effectiveness.

**Table 6: State and Federal Universities in South East Nigeria**

S/N	Name	Year of Establishment	Location	Ownership
1.	University of Nigeria, Nsukka	1960	Nsukka, Enugu state	Federal
2.	Enugu State University of Technology (ESUT), Enugu	1979	Enugu, Enugu state	State
3.	Abia State University, Uturu (ABSU)	1980	Uturu, Abia state	State
4.	Federal University of Technology, Owerri (FUTO)	1980	Owerri, Imo state	Federal
5.	Imo State University, Owerri	1992	Owerri, Imo state	State
6.	Nnamdi Azikwe University, Awka	1992	Awka, Anambra state	Federal
7.	Ebonyi State University, Abakaliki	2000	Abakaliki, Ebonyi state	State
8.	Anambra state university, Uli	2000	Uli, Anambra state	State

*Source: Adapted Nowakowski (2010)*

*A Review of Nigerian Universities*

## Sample and Sampling Procedure

The sample used for the study was drawn using simple random sampling technique. Equal representative of the sample was used for the study, as a result of disparity in the numbers of states and federal universities. Two federal and two state universities were selected for the study using stratified random sampling technique. The sample size for this study was 2,958 participants representing 20% of the population. These included 2,384 final year undergraduate students and 574 lecturers. This study made use of 2009/2010 academic session as this was the most current session with substantive data as at the time of this study.

**Table 7: Sampled Institutions, Lecturers and Students by 2009/2010 Academic Session**

S/N	Institutions	No. of Lecturers	Sample Size	No. of final year students	Sample Size
1.	Abia State University	351	143	2,493	596
2.	Enugu State University of Technology	543	144	2,464	596
3.	Nnamdi Azikwe University	960	143	3,384	596
4.	University of Nigeria (Nsukka Campus)	1,017	144	3,579	596
<b>Total</b>		<b>2,871</b>	<b>574</b>	<b>11,920</b>	<b>2,384</b>
		<b>(100%)</b>	<b>(20%)</b>	<b>(100%)</b>	<b>(20%)</b>

*Source: UNN, NAU, ABSU & ESUT Annual Statistics (2010)*

Equal representative of sample from the study population

## **Instrumentation**

The instruments used for data collection were questionnaires and unstructured interview. The researcher designed two sets of questionnaires titled “Lecturers’ Quality Evaluation Questionnaire (LQEQ) and Students’ Quality Evaluation Questionnaire (SQEQ)”.

The LQEQ was divided into two sections A and B, Section A dealt with personal and institutional information which included: name of university, faculty, ownership, gender, marital status, academic qualifications, status or rank and years of working experience.

*Section B* focused on the evaluation of the quality of education given to students: This section of the questionnaire, a 4-point Likert-type scale, sought opinion based on strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD), and had 33 items. The LQEQ contained quality indices: lecturers’ professional development, level of lecturers ICT compliance, level of remunerations and incentives given to lecturers in the universities, and research activities/output.

## **Students’ Quality Evaluation Questionnaire (SQEQ)**

This questionnaire was structured by this researcher to obtain data from students in the universities on their self evaluation of quality education. SQEQ was divided into two sections. Section A of the questionnaire sought basic information on the characteristics of the participants such as: name of university, faculty, type of ownership, gender and age.

Section B: This section of SQEQ was designed based on a 4-point Likert-type scale of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) and it contained 42 items. The items were characterized by quality indices of adequacy of classroom communication materials, adequacy and conduciveness of physical facilities, number of lecturers, and teaching effectiveness.

### **Validity of the Research Instruments**

The face and content validity of the research instruments was ensured by giving the instruments to five lecturers, in the field of Educational Administration and planning. Their comments, criticisms, modifications and contributions led to the restructuring of the items to remove ambiguity and repetition.

### **Reliability of the Research Instruments**

The test re-test method was adopted to determine the instruments' reliability status. Accordingly, a pilot study was carried out by the researcher before the main study to determine the instruments' consistency in measuring in different circumstances, what they were meant to measure. Sixty copies of the questionnaires were administered to 10 lecturers and 50 final year undergraduate students from a university that was not selected for the study. Two weeks later, a repeat of the exercise was undertaken to obtain a second set of data. The scores of the two groups were correlated using the Pearson Product Moment Correlation Co-efficient technique in order to show the level of relationship between the two sets of data generated. The results of the pilot tests showed that the reliability coefficients of the instruments SQEQ and LQEQ were 0.63 and 0.73 respectively.



### **Procedure for Data Collection**

The instruments were administered during the 2010/2011 academic session. The questionnaires were administered by the researcher with the help of four trained research assistants. Also in some cases, lecturers and Heads of Departments of the institutions under study assisted in administering the questionnaires.

### **Retrieval Rate**

Out of 574 copies of LQEQ administered on lecturers, 24 copies were not returned. Five hundred and fifty copies of questionnaire were found usable representing about 88.9% of the sample. Out of 2,384 copies of SQEQ administered, 2,050 (86%) were returned.

### **Data Scoring System**

The data generated were collated and scored using the format shown in the table below.

**Table 8: Scoring of the Data in SQEQ and LQEQ**

<b>Code</b>	<b>Meaning</b>	<b>Score (For Positive Statement)</b>	<b>Score (For Negative Statement)</b>
SD	Strongly Disagree	1	4
D	Disagree	2	3
A	Agree	3	2
SA	Strongly Agree	4	1

### **Method of Data Analysis**

Descriptive and inferential statistics were used for data analysis. Descriptive statistics such as percentage and frequency distribution tables were used to summarize the demographic data of the lecturers and students as participants. Besides, the perception data generated from the responses of the participants to the items on the Students' Quality Evaluation Questionnaire (SSEQ) and the Lecturers' Quality Evaluation Questionnaire (LSEQ) were analyzed to answer the research questions raised in the study using relevant descriptive statistics such as percentage, mean and standard deviation. In addition, the Pearson Product Moment Correlation statistical tool was to test all the hypotheses using the Statistical Package for Social Sciences (SPSS). The null hypotheses were tested at 0.05 level of significance.

## **CHAPTER FOUR**

### **DATA ANALYSIS, INTERPRETATION OF RESULTS AND SUMMARY OF FINDINGS**

#### **Introduction**

The entire data generated for this study were statistically analyzed in line with the research questions and the hypotheses raised in the study. The results are presented in three parts. The first part contains the summary of the participants' demographic characteristics and the second part contains the answers to the research questions raised in the study; while the third part contains the results of the statistical analysis of the hypotheses tested in the study. Besides, in presenting the answers to the research questions, Strongly Agree (SA) and Agree (A) responses were summed up as Agree, while Strongly Disagree (SD) and Disagree (D) responses were summed up as Disagree. Their respective percentages were as well summed up in the same order and presented along with the responses. It is only the responses with the higher percentages that were used in reporting the participants' answers to the question items in order not to make the report look clumsy and intricate. In addition, the weighted responses (WR) of the participants were used to compute the mean values and standard deviations of the respective question items employing the Statistical Package for Social Sciences (SPSS). The standard deviations of the items were used to rank their respective potency in relation to the research questions.

## Data Analysis

### Presentation of Participants' Bio-Data

**Table 9: Demographic Characteristics of the Students**

<b>Gender</b>	<b>Number</b>	<b>%</b>
Male	932	45.5
Female	1118	54.5
Total	<b>2050</b>	<b>100</b>
<b>Age</b>	<b>Number</b>	<b>%</b>
16 - 20 years	544	26.5
21 –25 years	609	29.7
26- 30 years	609	29.7
Above 30 years	288	14
<b>Total</b>	<b>2050</b>	<b>100</b>

Table 9 shows the gender and age distributions of the students involved in the study. From the table, 932(45.5%) of the students were males, while 1,118(54.5%) were females; 544(26.5%) of the students were between the ages of 16 - 20 years; 609(29.7%) of them were between 21 –25 years old; 609(29.7%) were between the ages of 26- 30 years; while 288(14%) of them were above thirty years old.

**Table 10: Demographic Characteristics of the Sampled Lecturers**

<b>Gender</b>	<b>Number</b>	<b>%</b>
Male	242	44
Female	308	56
<b>Total</b>	<b>550</b>	<b>100</b>
<b>Marital Status</b>	<b>Number</b>	<b>%</b>
Married	374	68
Unmarried	99	18
Others (divorced, separated widows, widowers)	77	14
<b>Total</b>	<b>550</b>	<b>100</b>
<b>Academic Qualification</b>	<b>Number</b>	<b>%</b>
Master's Degrees	77	14
M. Phil.	44	8
PhD	429	78
<b>Total</b>	<b>550</b>	<b>100</b>
<b>Rank/Status</b>	<b>Number</b>	<b>%</b>
Professor	44	8
Associate Professor	110	20
Senior Lecturer	165	30
Lecturer I	44	8
Lecturer II	121	22
Assistant Lecturer	66	12
<b>Total</b>	<b>550</b>	<b>100</b>
<b>Years of Working Experience</b>	<b>Number</b>	<b>%</b>
1 – 5 years	33	6
6- 10 years	132	24
11 – 15 years	220	40
Above 15 years	165	30
<b>Total</b>	<b>550</b>	<b>100</b>

Table 10 shows the demographic characteristics of the lecturers involved in the study. From the table, 242(44%) of the lecturers were males, while 308(56%) of them were females. In all, 374(68%) of the lecturers were married, 99(18%) of them were unmarried, while 77(14%) were either divorced, separated, widows or widowers. With regard to academic qualifications, 77(14%) of the lecturers were master's degree holders, 44(8%) were M. Phil holders, while 429(78%) were PhD holders. In terms of ranks or status, 66(12%) of the lecturers were assistant lecturers, 121(22%) of them were lecturer II, 44(8%) were lecturer I, 165(30%) were senior lecturers, 110(20%) were associate professors, while 44(8%) were professors. In terms of working experience, 33(6%) of the lecturers had between 1-5 years work experience, 132(24%) of them had between 6-10 years work experience, 220(40%) had spent between 11-15 years on the job; while 165(30%) had been on the job for more than 15 years.

### **Analysis of Research Questions**

**Research Question 1:** To what extent do selected universities in South East Nigeria conform with the NUC's Minimum Academic Standard tone measured in terms of their accreditation results?

**Table 11: Results of 2009/2010 Accreditation Exercise in Selected Universities in South East Nigeria**

Name of Universities	Total no. of programmes	<i>Accreditation Status</i>		
		Full	Interim	Denied
UNN	9	8	1	–
NAU	6	2	4	–
ABSU	4	1	3	–
ESUT	8	–	5	3
<b>Total</b>	<b>27</b>	<b>11</b>	<b>13</b>	<b>3</b>
	<b>(100%)</b>	<b>(40.7%)</b>	<b>(48.1%)</b>	<b>(11.3%)</b>

**Source:** NUC (2010)

*Results of 2009 Accreditation exercises for universities and affiliate institutions.*

Table 11 shows the result of 2009/2010 accreditation exercise by NUC. Out of the 27 programmes accredited, 11 of them representing 40.7% had full accreditation status, 13 (48.1%) had interim accreditation status, while 3 (11.3%) was denied accreditation.

This implied that the available academic infrastructure, personnel and other resources for running some of these programmes did not conform with the stipulations of MAS and as such were denied accreditation.

**Research Question 2:** To what extent do the existing teacher-student ratios in the various academic programmes conform with NUC guidelines?

## Lecturer-student ratios of the academic programmes in universities

**Table 12: Federal Universities - UNN and NAU 2009/2010 Academic Year**

Faculty	Arts	Edu.	Engr.	Env. Sc.	H/Sc. & Tech.	Law	Medicine	Pharm.	Soc. Sc.
<b>No. of students</b>	4346	5036	4911	2099	3272	2356	2422	1359	6018
<b>No. of lecturers</b>	281	264	176	144	109	68	275	83	248
<b>Teacher-student ratios</b>	1:16	1:19	1:28	1:15	1:30	1:35	1:9	1:16	1:24

*Source: UNN & NAU Annual Statistics (2010)*

**Table 13: State Universities - ESUT and ABSU 2009/2010 Academic Year**

Faculty	Edu.	Engr.	Env. Sc	Law	Medicine	Agric Sc.	Soc. Sc.
<b>No. of Students</b>	2428	4387	4177	1131	995	1397	3962
<b>No. of Lecturers</b>	106	78	126	48	160	56	123
<b>Teacher-student ratios</b>	1:23	1:56	1:33	1:24	1:6	1:25	1:32

*Source: ESUT & ABSU Annual Statistics (2010)*

Tables 12 and 13 show lecturer-student ratios existing in faculties under various academic programmes offered in NAU, UNN, ESUT and ABSU. Most of the programmes do not conform to standard guidelines. According to NUC regulation on teacher–student ratios for the faculties available in the universities; Law, Arts, Social Sciences, and Administration should be 1:20; Education 1:24; Pharmacy and Sciences 1:10; Human and Veterinary Medicine 1:6; Agriculture and Engineering/ Technology 1:9 (Alani, 2007).

Based on the above analysis, education, medicine and arts conformed to the stipulated guideline while others such as engineering, law, agricultural science, pharmacy and social sciences did not.



**Research Question 3:** How adequate are the classroom communication materials in the selected universities in south east Nigeria for effective teaching?

**Table 14: Adequacy of Classroom Communication Materials and Teaching Effectiveness (N=2050)**

Items	Response mode	Freq.	%	W/R	Mean	Std. Dev.	Rank
There is inadequate classroom communication materials in the school for effective classroom interactions	Agree	1,082	52.8	5,083	2.4795	1.6318	2 <sup>nd</sup>
	Disagree	968	47.2				
Mega-phones, projectors, other public address systems, etc. are enough in the departments for teaching combined/ large classes.	Agree	911	44.4	5,271	2.5712	1.8212	3 <sup>rd</sup>
	Disagree	1,139	55.6				
ICT facilities, equipment and tools are not adequate for the students' population.	Agree	1,751	85.5	3,829	1.8678	1.2321	1 <sup>st</sup>
	Disagree	299	4.5				
Instructional materials are adequately available for the use of lecturers to make their teaching in class more practical and interesting.	Agree	917	44.7	4,955	2.4171	1.8731	4 <sup>th</sup>
	Disagree	1133	55.3				
Classroom communications materials are very important to teaching and learning.	Agree	1,652	80.6	6,293	3.0698	2.1371	5 <sup>th</sup>
	Disagree	398	19.4				

Key: N = Sample size

W/R = Weighted Response

Table 14 presents the students' responses to the statement items designed to answer research question four, which was intended to find out the adequacy of classroom communication materials for effective teaching in selected universities in south east of Nigeria. According to the table, 52.8% of the students indicated that classroom communication materials were inadequate in their schools; 55.6% of them noted that mega-phones, projectors and other public address systems, were not enough in the departments for teaching combined/large classes; 85.5% asserted that ICT facilities, equipment and tools were not adequate to serve the students' population; 55.3% pointed out that instructional materials were not adequately available in their schools for the use of lecturers; while 80.6% declared that classroom based communication materials were very important to teaching and learning, as such should be made adequately available.

Based on the above analysis, it can be concluded that classroom communication materials in these universities were not adequate for effective teaching.

**Research Question 4:** How adequate and conducive were the available physical facilities in the selected universities in south east Nigeria for effective teaching?

**Table 15: Adequacy and Conduciveness of Physical Facilities for Teaching Effectiveness (N=2050)**

Items	Response mode	Freq.	%	W/R	Mean	Std. Dev.	Rank
Available physical facilities are inadequate and uncondusive for qualitative academic work	Agree Disagree	1125 925	54.9 45.1	4,899	2.3898	1.2533	6 <sup>th</sup>
There are inadequate classroom blocks, desks and chairs to contain the increasing students' population during lectures	Agree Disagree	1153 897	56.2 43.8	5,073	2.4746	1.5316	9 <sup>th</sup>
The available classrooms are not spacious and conducive for effective teaching and learning.	Agree Disagree	1409 641	68.7 31.3	4,465	2.1780	1.1321	4 <sup>th</sup>
Lecturers are not provided with separate well equipped library space and facilities for research.	Agree Disagree	1410 640	68.8 31.2	4,564	2.2263	1.2114	5 <sup>th</sup>
The school lacks relevant laboratories, equipment and workshops for practical teaching.	Agree Disagree	1,045 1,005	51.0 49.0	5,174	2.5239	1.5863	10 <sup>th</sup>
There are inadequate office accommodations for the comfort of lecturers to carry out their academic activity.	Agree Disagree	1122 928	54.8 45.2	4,906	2.3932	1.3157	7 <sup>th</sup>
The school library facilities in terms of size, space and furniture are not enough for students' studies and research work.	Agree Disagree	1,050 1,000	51.2 48.8	4,933	2.4063	1.3883	8 <sup>th</sup>
There are not enough lecture theatres for teaching large classes of students.	Agree Disagree	1,666 384	81.3 18.7	4,174	2.0361	1.0135	1 <sup>st</sup>
Hostel facilities are inadequate for the student population	Agree Disagree	1,373 677	67.0 33.0	4,401	2.1468	1.1014	3 <sup>rd</sup>
The school physical facilities maintenance and sewage management is very poor.	Agree Disagree	1,481 569	78.3 21.7	4,396	2.1444	1.0146	2 <sup>nd</sup>

**Key:** N = Sample size  
W/R = Weighted Response

Table 15 shows the responses of the students to the statement items designed to answer research question five, which tends to ascertain the adequacy and conduciveness of the available physical facilities in the selected universities in south east Nigeria for teaching effectiveness. According to the table, 54.9% of the students indicated that the available physical facilities in the selected universities in South East Nigeria were inadequate and uncondusive for qualitative academic work; 56.2% of them noted that there were inadequate classroom blocks, desks and chairs to contain the increasing students' population during lectures; 68.7% pointed out that the available classrooms were not spacious and conducive for effective teaching and learning; 68.8% asserted that lecturers are not provided with separate well equipped library space and facilities for research; 51% enthused that the universities lack relevant laboratories, equipment and workshops for practical teaching; 54.8% indicated that the school library facilities in terms of size, space and furniture were not enough for students' studies and research work; 51.2% noted that there were inadequate office accommodations for the comfort of lecturers to carry out their academic activity; 81.3% revealed that there were not enough lecture theatres for teaching large classes of students; 67% asserted that hostel facilities in their schools were inadequate for the student population; while 78.3% affirmed that the school physical facilities maintenance and sewage management was very poor.

The analysis above therefore shows that the available physical facilities in these universities were not adequate and conducive for effective teaching.

**Research Question 5:** Is the number of lecturers in the departments of selected universities in South East Nigeria adequate for the effective teaching of the courses?

**Table 16: Perception of Students on number of Lecturers and teaching effectiveness (N=2050)**

Items	Response mode	Freq.	%	W/ R	Mean	Std. Dev.	Rank
The available lecturers are saddled with a lot of responsibilities that bear negatively on their effectiveness.							
	Agree	1,068	52.1	5,123	2.4990	1.5711	4 <sup>th</sup>
	Disagree	982	47.9				
The number of lecturers in the department is inadequate for the courses run in the department.							
	Agree	1,066	52.0	5,300	2.5854	1.5947	5 <sup>th</sup>
	Disagree	984	48.0				
The student-teacher ratio in the school has grown beyond the capacity of the available lecturers.							
	Agree	1,752	85.5	6321	3.0834	1.2133	1 <sup>st</sup>
	Disagree	298	14.5				
The lecturers in the department are always faced with a more than required workload to handle.							
	Agree	1,073	52.3	5,170	2.5220	1.5242	3 <sup>rd</sup>
	Disagree	977	47.7				
Some courses in the department are not adequately taught because of lack of relevant lecturers to teach them.							
	Agree	1,283	62.6	4,524	2.2068	1.4153	2 <sup>nd</sup>
	Disagree	767	37.4				
<b>Key:</b> N = Sample size							
W/R = Weighted Response							

Table 16 presents the sampled students' responses to the statement items designed to answer research question six, which inclined to find out the adequacy of the number of lecturers available in the departments of the selected universities in South East of Nigeria for the effective teaching of the courses offered in the departments. According to the table, 52.1% of the students revealed that the available lecturers were saddled with a lot of responsibilities that bear negatively on their effectiveness; 52% of them pointed out that the number of lecturers in the department was inadequate for the courses run in the department. 85.5% affirmed that the student-teacher ratio in the school has grown beyond the capacity of the available lecturers; 52.3% enthused that the lecturers in the department were always faced with a more than required workload to handle; while 52.6% indicated that some courses in the department were not adequately taught because of lack of relevant lecturers to teach them.

From the analysis above, it can be deduced that the available number of lecturers in these universities was not adequate for effective teaching of the courses offered in the various departments.

**Research Question 6:** To what extent does the level of professional development given to lecturers in the selected universities in South East enhance their research output?

**Table 17: Lecturers' Perception of their Professional Development and the Institution's Research Output (N=550)**

Items	Response mode	Freq.	%	W/R	Mean	Std. Dev.	Rank
Professional development enhances job performance.	Agree	458	83.3	1,684	3.0618	1.4724	1 <sup>st</sup>
	Disagree	92	16.7				
The university sponsors lecturers to local and international conferences	Agree	46	10.3	1,015	1.8455	1.5632	5 <sup>th</sup>
	Disagree	504	89.7				
Seminars, workshops and conferences are intermittently organized by the university.	Agree	411	74.8	1,622	2.9491	1.4837	2 <sup>nd</sup>
	Disagree	139	25.2				
Study leaves and sabbatical leaves are easily granted to lecturers for out-of-job experience.	Agree	428	77.8	1,612	2.9309	1.5169	3 <sup>rd</sup>
	Disagree	122	22.2				
Lecturers are provided with research grants for professional development in research and publications.	Agree	61	11.1	854	1.5527	1.5815	6 <sup>th</sup>
	Disagree	489	88.9				
Publication of journals is seldom sponsored by the university at both the faculty and departmental levels.	Agree	325	59.1	1,260	2.2909	1.5277	4 <sup>th</sup>
	Disagree	225	40.9				

**Key:** N = Sample size

W/R = Weighted Response

Table 17 presents the sampled lecturers' responses to the statement items designed to answer research question eight, which inclined to find out the level of professional development given to lecturers in the selected universities in South East to enhance their research output. According to the table, 83.3% of the lecturers affirmed that lecturers were given the opportunity to attend seminars and workshops; 91.7% of them enthused that the universities did not sponsor lecturers to local and international conferences; 74.8% agreed that seminars, workshops and conferences were intermittently organized by the universities; 77.8% revealed that study leaves and sabbatical leaves were easily granted to lecturers for out-of-job experience; 88.9% declared that lecturers were not provided with research grants for professional development in research and publications; while 59.1% indicated that publication of journals was seldom sponsored by the universities at both the faculty and departmental levels.

Based on the above analysis, it can be concluded that lecturers were not given regular professional development to enhance their research output.

**Research Question 7:** What is the level of ICT compliance among the lecturers in the selected universities in south east of Nigeria?



**Table 18: Lecturer ICT Compliance, Research Activity and Output**  
(N=550)

Items	Response mode	Freq.	%	W/ R.	Mean	Std. Dev.	Rank
The use of ICT expedites teaching and research activities and output.	Agree	496	90.2	1,687	3.0673	1.2322	1 <sup>st</sup>
	Disagree	54	9.8				
Lecturers have not been fully acquainted with the use of most ICT facilities.	Agree	387	70.4	1,288	2.2418	1.8314	6 <sup>th</sup>
	Disagree	163	29.6				
Most of the lecturers still find it difficult to use ICT facilities to teach.	Agree	389	70.7	1,528	2.7782	1.6244	4 <sup>th</sup>
	Disagree	161	29.3				
Experts are most times invited to help lecturers manage ICT facilities before they can be used to teach or make presentations.	Agree	407	74.0	1,531	2.7836	1.5335	3 <sup>rd</sup>
	Disagree	143	26.0				
ICT facilities are to a great extent not adequately accessible to lecturers.	Agree	371	67.5	1,207	2.1945	1.8912	7 <sup>th</sup>
	Disagree	179	32.5				
The university has not made adequate provisions for ICT facilities for faculties and departments.	Agree	366	66.6	1,248	2.2691	1.7851	5 <sup>th</sup>
	Disagree	184	33.4				
Many lecturers do not know how to maximize the use of Internet services for research activities and international publications.	Agree	408	74.2	1,134	2.0618	1.4825	2 <sup>nd</sup>
	Disagree	142	25.8				

**Key:** N = Sample size  
W/R = Weighted Response

Table 18 shows the responses of the sampled lecturers to the statement items designed to answer research question nine, which was predisposed to ascertain the level of ICT compliance among the lecturers in the selected universities in south east Nigeria of Nigeria. According to the table, 90.2% of the lecturers agreed that the use of ICT expedites teaching and research activities and output; 70.4% of them noted that the lecturers were not fully acquainted with the use of most ICT facilities; 70.7% pointed out that most of the lecturers found it difficult to use ICT facilities to teach; 74% confirmed that experts were most times invited to help lecturers manage ICT facilities before they could be used to teach or make presentations; 67.5% confirmed that ICT facilities were to a great extent not adequately accessible to lecturers; 66.6% emphasized that the universities had not made adequate provisions for ICT facilities in the faculties and departments; while 74.2% affirmed that many lecturers did not know how to maximize the use of Internet services for research activities and international publications.

The analysis above indicated that the level of ICT compliance among lectures in these universities was very low.

**Research Question 8:** What is the extent of remuneration and incentives given to lecturers for research enhancement in the selected universities in South East of Nigeria?

**Table 19: Lecturers' Remuneration and Research Output(N=550)**

Items	Response mode	Freq.	%	W/R	Mean	Std. Dev.	Rank
University lecturers are generally not appropriately remunerated.	Agree	391	71.1	1,172	2.1309	0.9858	1 <sup>st</sup>
	Disagree	159	28.9				
Cash awards and bonuses are given to lecturers for outstanding performance in teaching and research.	Agree	78	14.2	1,016	1.8473	1.2643	5 <sup>th</sup>
	Disagree	472	85.8				
Adequate allowances are given to lecturers for good medical, transport and accommodation facilities.	Agree	125	22.7	1,126	2.0473	1.0351	2 <sup>nd</sup>
	Disagree	425	77.3				
Lecturers are provided with research grants to enhance their research output.	Agree	81	14.7	1,042	1.8945	1.2144	4 <sup>th</sup>
	Disagree	469	85.3				
Conference and seminar allowances are given to lecturers to enhance their skills and output.	Agree	109	19.8	1,057	1.9218	1.1127	3 <sup>rd</sup>
	Disagree	441	80.2				

**Key:** N = Sample size

W/R = Weighted Response

Table 19 presents the responses of the lecturers to the statement items designed to answer research question ten, which intended to ascertain the extent of remuneration and incentives given to lecturers for research enhancement in the selected universities in south east Nigeria. According to the table, 71.1% of the lecturers affirmed that university lecturers in the south east Nigeria were generally not appropriately remunerated; 85.8% of them noted that cash awards and bonuses were not given to lecturers for outstanding performance in teaching and research; 77.3% also affirmed that adequate allowances were not given to lecturers for good medical, transport and accommodation facilities; 85.3% declared that lecturers were not provided with research grants to enhance their research output; while 80.2% confirmed as well that conference and seminar allowances were not given to lecturers to enhance their skills and research output.

From the above analysis, it can be concluded that lecturers were not properly remunerated for increased research output.

### **Results of Tested Hypotheses**

**Hypothesis One:** There is no significant relationship between classroom communication materials and teaching effectiveness.

**Table 20: Classroom Communication Materials and Teaching Effectiveness**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Teaching Effectiveness</b>		27.26	7.584					
	2050			2048	0.05	0.608	0.1946	Significant
<b>Classroom communication materials</b>		13.58	3.228					

Table 20 shows that the calculated r-value of 0.608 is greater than the critical r-value of 0.1946, with df of 2048 at 0.05 level of significance. This result necessitated the rejection of null hypothesis one ( $H_{01}$ ), thereby confirming that a significant relationship existed between classroom communication materials and teaching effectiveness. This result implies that increase in the quantity of classroom communication materials would significantly enhance teaching effectiveness in universities.

**Hypothesis Two:** Provision of quality physical facilities and teaching effectiveness is not significantly related.

**Table 21: Quality of Physical Facilities and Teaching Effectiveness**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Teaching Effectiveness</b>		27.26	7.584					
	2050			2048	0.05	0.816	0.1946	Significant
<b>Physical Facilities</b>		26.81	3.443					

Table 21 shows that the calculated r-value of 0.816 is greater than the critical r-value of 0.1946, with df of 2048 at 0.05 level of significance. This result supports the rejection of null hypothesis two ( $H_{02}$ ) which therefore asserts that there is a significant relationship between physical facilities and teaching effectiveness. This result implies that an increase in the quantity and quality of physical facilities in universities would bring about a corresponding increase in teaching effectiveness in the schools.

**Hypothesis Three:** There is no significant relationship between provision of adequate number of lecturers and teaching effectiveness.

**Table 22: Lecturers' Strength and Teaching Effectiveness**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Teaching Effectiveness</b>		27.26	7.584					
	2050			2048	0.05	0.647	0.1946	Significant
<b>Number of Lecturers</b>		12.62	3.359					

Table 22 shows that the calculated r-value of 0.647 is greater than the critical r-value of 0.1946, with degrees of freedom 2048 at 0.05 level of significance. This result necessitated the rejection of null hypothesis three ( $H_{03}$ ), thereby indicating that there is a significant relationship between the number of lecturers and teaching effectiveness. This result portends that increase in the number of lecturers would significantly influence teaching effectiveness in the universities studied.

**Hypothesis Four:** Relationship between Academic Staff professional development and research output is not significant.

**Table 23: Academic Staff Professional Development and Research Output**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Research Output</b>		20.55	2.357					
<b>Academic Staff Professional Development</b>	550			548	0.05	0.249	0.1946	Significant

Table 23 shows that the calculated r-value of 0.249 is greater than the critical r-value of 0.1946 given 548 degrees of freedom at 5% level of significance. This result confirms the rejection of null hypothesis 5 thereby indicating that a significant relationship exists between academic staff professional development and research output. This result implies that increase in lecturers' professional development will bring about increase in the research output of selected universities in south east Nigeria.

**Hypothesis Five:** There is no significant relationship between lecturers' level of ICT compliance and research output of selected universities in South East Nigeria

**Table 24: Lecturers' ICT Compliance and Research Output**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Research Output</b>		20.55	2.357					
<b>Lecturers ICT Compliance</b>	550			548	0.05	0.395	0.1946	Significant

Table 24 shows that the calculated r-value, 0.395 is greater than the critical r-value of 0.1946, df of 548 at 0.05 level of significance. This result necessitated the rejection of null hypothesis five ( $H_{05}$ ), implying that there is a significant relationship between lecturers ICT compliance and research output. The implication of this result is that an increase in the level of lecturers ICT compliance would enhance the level of research output of selected universities.

**Hypothesis Six:** The level of remuneration and incentives given to lecturers and their research output is not significantly related.

**Table 25: Lecturers' remunerations/Incentives and Research Activity**

Variables	N	Mean	SD	Df=(n-2)	P-value	r-calculated	r-critical	Remark
<b>Research Output</b>		20.55	2.357					
<b>Lecturers' remunerations &amp; Incentives</b>	550	15.41	2.658	548	0.05	0.247	0.1946	Significant

Table 25 shows that the calculated r-value of 0.247 is greater than the critical r-value of 0.1946, with df of 548 at 0.05 level of significance. This result led to the rejection of null hypothesis six ( $H_{06}$ ) indicating that there is a significant relationship between lecturers' remunerations/ incentives and research output. This result implies that increase in lecturers' remunerations/incentives would significantly enhance the research output of the universities in the south-east geopolitical zone in the study.



## Summary of Findings

The following are the major findings of the study:

1. Some programmes offered in South East universities were not accredited by NUC. Statistics shows that eleven per cent of the programmes accredited in 2009/2010 accreditation exercise were denied accreditation.
2. Lecturer-student ratios of some of the academic programmes offered in universities in South East Nigeria did not conform to NUC guidelines. According to standard guideline the teacher-student ratio for law and social sciences was 1:20 while in the research area, the ratios were 1:24 and 1:32 respectively in those disciplines. Similarly, in engineering which was to be 1:9 was outrageously 1:28 in federal and 1:56 in state universities. Others such as pharmacy and agricultural science, also did not conform with the guideline.
3. There was inadequate provision of classroom communication materials.
4. Physical facilities were inadequate and unconducive for effective teaching.
5. There was a statistically significant relationship between classroom communication materials and teaching effectiveness. The calculated r-value of 0.608 was greater than critical r-value of 0.1946.
6. There was a statistically significant relationship between physical facilities and teaching effectiveness. The calculated r-value of 0.816 was greater than critical r-value of 0.1946.

7. Academic staff strength correlates significantly with teaching effectiveness. The calculated r-value of 0.647 was greater than critical r-value of 0.1946.
8. There was a statistically significant relationship between academic staff professional development and research output. The calculated r-value of 0.249 was greater than critical r-value of 0.1946.
9. There was a statistically significant relationship between lecturers' ICT compliance and their research output. The calculated r-value of 0.395 was greater than critical r-value of 0.1946.
10. There was a statistically significant relationship between academic staff remuneration and research activity. The calculated r-value of 0.247 was greater than critical r-value of 0.1946.

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS, IMPLICATIONS, CONCLUSION AND RECOMMENDATIONS**

#### **Introduction**

This chapter presents discussion of findings relating to the research questions and hypotheses, in order to raise the bases for establishing the study result implications. The policy implications of the study, contributions to knowledge, recommendations and suggestions for further research were addressed.

#### **Discussion of Findings**

##### **Accreditation Results by NUC**

The results of the study relating to research question one (table 12) which sought to examine the extent to which selected universities in south east Nigeria conform with the NUC's Minimum Academic Standard (MAS) measured in terms of their accreditation results reveals that some programmes offered in these institutions were denied accreditation by NUC, as shown in table 11. Out of the total of 27 programmes accredited in 2009/2010 academic session only 40.7% received full accreditation status, 48.1% interim while 11.3% were outrightly denied accreditation. These were similar to previous results. In 1999/2000 academic session only 11.4% programmes received full accreditation, 71.6% received interim accreditation while 17% were denied outright accreditation.

A better result was obtained in 2005/2006 and 2007/2008 where only 6.7% and 2.6% were denied accreditation (Okojie, 2008). This implies that most programmes offered in these institutions did not score up to 70% in each of the core areas of staffing, academic content, physical facilities and library and thereby did not conform to the standard laid down by NUC. However, in a survey on the trend in quality assurance in Nigerian Universities since 1960, accreditation process was rated as high as 73% by 2010.

### **Lecturer-Student ratios of the various academic programmes and their level of conformity with NUC guidelines**

The results of the study relating to research question two (tables 12 and 13) on lecturer-student ratios of the various academic programmes and their level of conformity with NUC guidelines revealed that some programmes offered in these institutions did not adhere to NUC specifications. The lecturer-student ratios in engineering, law and social sciences recorded 1:56, 1:24 and 1:32 respectively were well above the laid down standard by NUC. According to the MAS document, the ratio for law, arts, social sciences and administration was 1:20; education, 1:24; pharmacy and sciences 1:10; human and veterinary medicine 1:6; agriculture and engineering/technology 1:9. (Alani 2007).

The findings were in corroboration with the reports of NUC 2002 which noted staffing shortage to be the most acute in engineering, sciences and business disciplines. The obvious short falls were estimated to be 73% in engineering, 62% in medicine, 58% in administration and 53% in the sciences. This report also concluded that there were no staffing shortages in arts and education courses respectively. These were in line with the findings of this present study.

Similarly, this increase in teacher-student ratios was also congruent with the FME (2005) report which recorded that the ratios have been increasing steadily over the years. Generally it was reported that in 2000/2001 it was 1:19; 2001/2002 it rose to 1:24; 2002/2003 1:28; and finally in 2003/2004 and 2004/2005 it went up to 1:30 and 1:33 respectively. This implies that between 2000/2001 and 2004/2005, students enrolment increased by 117 per cent while lecturers' strength rose only by less than 25 per cent. Buttressing this, Okebukola (2006) affirmed that the system required about 21,912 teachers as a result of outrageous rise in students' enrolment in order to meet the approved minimum academic standards stipulated by NUC.

However, this was not peculiar to Nigeria alone, it was a global trend and it reflected the situation in the whole of African continent. Materu (2007) reported that between 1995 and 2002, Rwanda recorded 55 per cent enrolment increase, Namibia, 46 per cent, Uganda, 37 per cent, Tanzania, 32 per cent and Cote d'Ivoire, 28 per cent. It seems logical to conclude that selected universities in south east Nigeria and universities in some African countries are critically bedeviled with dearth of human resources as a result of many factors including explosive enrolment and brain drain.

### **Relationship Between Adequate Provision of Classroom Communication Materials and Teaching Effectiveness**

The result of the study relating to hypothesis one (table 20) shows a statistically significant relationship between classroom communication materials and teaching effectiveness. This implies that increase in the quantity and quality of

classroom communication materials or instructional materials such as projectors, public address system, audio-visual aids, ICT facilities among others would significantly enhance teaching effectiveness.

The finding in this regard is in agreement with many research conducted around availability and adequacy of instructional materials, (Adesina 1990; Nwagwu 1997; Anukam, 2001; Afolabi, 2002; Uche et al, 2011; Okobia 2011). Reiterating on the availability and teachers use of instructional materials and resources, Okobia (2011) observed that audio-visual materials such as television, computers, overhead transparencies, and video recorders were not available in these institutions. Also buttressing this view, Monday and Esowo (2008) pointed out that only relatively small numbers of teachers and students had access to computers, television and radios. They further argued that these materials were grossly inadequate in Nigerian schools.

The study further reveals on table 15 that 85.5% of the participants pointed out that ICT facilities, equipment and tools were not adequate for effective teaching and learning. This is in agreement with the views of many other researchers such as Agu, Omenyi and Odimegwu (2007); Monday and Esoswo (2008) and Okobia (2011).

In addition, buttressing the importance of classroom communication materials, for effective teaching and learning 80.6% of the participants supported the above assertion. Okunola (1987); Hallmark (1997); Adeogun (2001); and Madumere (2007) argued that availability, relevance and adequacy of these

facilities contribute to the academic achievement and hence competence level of graduates. These resources help the teacher to make learning meaningful to the learners and thereby enhance professional productivity, (Aduwa-Ogiegbaen and Imogie (2005) and Ikerionwu 2000). In addition Wheeler (2000) assert that computer is intended to serve as a means of improving efficiency in the educational process and effecting changes in teaching methodology, assessment of learning, student tracking, communication and evaluation.

### **Relationship between Physical Facilities and Teaching Effectiveness**

The result of the finding relating to hypothesis 2 as represented on table 21 which determines the relationship between adequacy and conduciveness of physical facilities and teaching effectiveness reveals that there is a significant relationship between physical facilities and teaching effectiveness. This implies that an increase in the quantity and quality of physical facilities such as classroom, laboratory, hostel and library spaces would facilitate teaching effectiveness.

This finding corroborated earlier reports by Nwagwu (1997); Adesina (1990); Nwafuluaka (2003); and Onyene and Fabiyi (2007) which stated that the quality and quantity of the educational facilities available in the educational institution reflects the standard and usefulness of their products. Nwafuluaku (2003), Onyene and Fabiyi (2007) equally argued that the availability and adequacy of modern state-of-the-art facilities are essential and therefore imperative for quality assurance in education.

In the analysis on table sixteen (16), the study further revealed that about sixty-eight per cent (68.7%) of the participants claimed that the classrooms were neither spacious nor conducive for effective teaching and learning, about eighty-one per cent (81.3%) declared that there were very few lecture theatres for teaching large classes of students, and 67% responded that hostel facilities were inadequate for the student population. These corroborated the reports of Anukam 2001; Afolabi, 2002; Fredriksson, 2004; Adeogun and Osifila 2007 and Uche et al 2011. Adeogun and Osifila (2007) in their study reported that 52% of participants asserted that inadequate educational resources existed in institution of higher learning while 48% responded otherwise. In a similar study by Uche et al (2011) on infrastructural development and quality assurance, the findings revealed that the available facilities were not enough, not adequate in terms of quantity and quality, not maintained, not safe and not students centred. Thus the quality assurance of these facilities was not guaranteed as they could match global standards. The same was the case with the findings of Adegbesan (2007) which revealed that nine (9) out of fifteen (15) school plants were available but only three (3) were adequate for effective teaching and learning in Nigerian vocational and technical colleges. A plausible explanation for high level of availability might be attributed to the fact that government provides more for the technical colleges than the conventional institutions.

Similarly Fredrikson (2004) reported on behalf of UNESCO and UNICEF that in Ethiopia seventy-two per cent (72%) of the students received their education in schools that needed basic repairs or had to be totally rebuilt; in India, only



sixteen per cent (16%) of the schools were not in need of any repair. This implies that 84% of the schools were not adequate and conducive for effective teaching and learning. Reports from the General Accounting Office (GAO, 1995) and another from the U.S Department of Education (NCE, 2000) showed that there were students in urban and high poverty area who attended school in buildings that threatened their health, safety and learning opportunities. Thus, the quality assurance of the available school buildings could be guaranteed as students' safety was not considered.

This study further reveals that 54.9% of the participants maintained that the available physical facilities were inadequate and unconducive for qualitative academic work. Consequently, this inadequacy according to Madumere (2007), Ogonor and Sanni (2001), Mbakwem and Okeke (2007) could be attributed to tremendous growth in students population without corresponding growth in the number of school facilities as well as poor or meager budgetary allocation to education by the government.

As important as these resources are Okebukola (2002) lamented that in a survey by NUC, it was reported that only about 30 per cent of Nigerian student population had adequate access to classroom, lecture theatres, laboratories, workshops and libraries.

## **Relationship between the Provision of Adequate Number of Lecturers and Teaching Effectiveness**

The results of the study relating to hypothesis 3 on table 22 shows that there was a significant relationship between the quantity of lecturers and teaching effectiveness. This result implies that an increase in the number of lecturers would significantly enhance teaching effectiveness.

Corroborating this finding, Darling-Hammond (2000) and Adegoke (2002) in their studies on lecturers' quality and preparedness found a significant relationship between lecturers' strength and quality and students performance thus implying that quantity and quality of lecturers are indicators of high standard of educational products. Ejiogu (2001), Fagbemiye (2003) and Adeogun (2004) also remarked that lecturer number and quality contribute to students' achievement and competence.

In addition, in several other studies, Fuller (1987); Olotu (1990); Fuller and Clarke (1994); Oni (1995); Ogbodo (1995) and Park and Hannum (2001) on school factors that raise students achievement found that lecturer factor was predominant.

Table 16 shows that about fifty two per cent (52%) of the participants agreed that the number of lecturers in the departments was inadequate for the available courses and as such, they were faced with a more than required work load to handle. About sixty-three per cent (62.6%) confirmed that some courses in the departments were not adequately taught because of lack of qualified lecturers

to teach them. This corroborated the findings of Aghenta (1992); Oni (1995); Adeogun (1997); Galloway (1989) and Okunola (2007) which affirmed that shortages were inherent in Nigerian schools and these affected both teaching and students performance negatively. Balogun (1991) categorized lecture inadequacies in four groups; overt shortage of lecturers, hidden shortages, suppressed shortages and modern shortages.

A plausible explanation to the shortage could be as a result of brain drain, which was why Odetunde (2004) lamented the mass exodus of many brilliant lecturers who could not compete within the political campus arenas of many university campuses. Some left to join the rat-race in the business world, others left Nigeria for better services. Consequently, Saint et al (2004) observed that institutional deterioration and salary erosion during the past decades have prompted substantial brain drain of lecturers and impeded new staff recruitment even as enrolment expanded. They further reported that between 1988 and 1990 over 1000 lecturers left the federal university system. Similarly, Materu (2007) reported that the percentage of tertiary education emigrants from Sub-Saharan Africa (SSA) increased from 23 per cent in 1990 to 31.4 per cent in 2000.

### **Relationship between Lecturers' professional Development and Research Output**

The result of the study relating to hypothesis four as represented on table 23 which described the relationship between lecturers' professional development and research output reveals that there was a significant relationship between

lecturers' professional development and research output. This implies that regular attendance at seminars, workshops and conferences enhances or promotes research output of lecturers thereby raising the quality of education. The finding was also in agreement with many research findings carried out on professional development and job performance which included those of Case, (1985), Odekunle (2002), Idikon, (2005) and Othman and Dehari (2011). Buttressing this point, Idikon (2005), in his study on Nigerian worker efficiency discovered that organizational factor was not the only important factor in achieving high productivity but that factor such as training and development which leads to acquisition of skills, knowledge and commitment determined performance on the job and subsequently affected work production. Similarly Smylie et al (2001) found that a high quality professional development programme characterized by effective need assessment process to determine professional development needs, collaborative learning and follow up has a significant effect on teacher's instructional practices.

Table (17) reveals that 83.3% of the participants opined that lecturers' professional development enhanced their job performance in the areas of teaching and research. This corroborated the findings of Nonaka (1996); Awopegba (1999) and Adeniyi (1995) which affirmed that lecturers' professional development enhanced their job performance, stating that while education qualifies an individual staff for a particular post, training improves his competence to effectively perform in that position. Similarly Adeniyi (1995) was of the view that professional development opportunities make

university lecturers able to respond to their role expectation and role performance in teaching and research. Armstrong (2000) postulated that training is a key element of improved organizational performance. In like manner, Ejiogu (2000) stated that the success of any educational programme depends on the professional competence of its lecturers.

Furthermore, table 17 also revealed that 89.7% of the participants were of the view that the university did not sponsor lecturers to both local and international conferences. Buttressing this point Hyman (1996) noted that short term profit or expenditure maximization is a reason why organizations ignore training programmes as well as inadequate funds. In line with the argument, Babalola (2007) asserted that Nigeria governments have not been able to provide the financial resources necessary to maintain educational quality. This could have contributed immensely to fall in standard of education

### **Relationship Between Lecturer's ICT Compliance and their Research Output**

Hypothesis five on table 24 shows that there was a significant relationship between lecturer's ICT compliance and their research output. The implication of this result is that an increase in the level of lecturer's ICT compliance could enhance their level of research output. This corresponds to previous research findings that ICT integration in education would yield bountifully (Adeogun 2001 and Agu et al, 2007).

Similarly, in table 18, 90.2% of the participants opined that the use of ICT expedited teaching and research activities and output, 70.7% agreed that most of the lecturers still found it difficult to use ICT facilities. About seventy-four per cent (74.2%) affirmed that most lecturers did not have knowledge of how to maximize the use of internet services for research activities and journal publications. This is in tandem with previous research findings that Nigeria teachers' computer competence level was low and below expectation (Yusuf, 2005; Olubube, 2006; Agu et al, 2007; Onuh & Ofojebe, 2007; Onyene et al, 2009; Olisemeka, 2011; Uche, 2006). This study's findings were also in harmony with several other studies done in some developing countries. Hapiza and Zawiyah (2009), in a study on the Distance Learning at University of Technology Mara, in Malaysia, discovered that the lecturers' knowledge in using technology was relatively low. Similarly, in another study by Hapiza and Zawiyah (2009) on management education through the use of the internet, found that 77% of participants (lecturers in South Africa) had no or low computer technology competence.

The finding of this study further revealed that 67.5% of the participants agreed that ICT facilities were to a great extent not adequately accessible to lecturers, 66.6% opined that the university has not made adequate provisions for ICT facilities for faculties and departments,. This findings was in congruence with those of Monday and Esoswo (2008); Agu et al (2007) and Okobia (2011). Contrary to this was the findings of Ray (1999) who reported that as at 1997, 78% of US public schools had internet access while Anderson and Ronnkvist (1999) revealed that in India, most schools had internet access.

### **Relationship Between Level of Incentives and Remuneration Provided for Lecturers and their Research Efforts**

The result of the hypothesis Ho<sub>6</sub> on Table twenty-five (25) which determines the relationship between remuneration and other incentives (research grants, cash awards and bonuses) given to lecturers and their research activities. The findings indicated that there was a significant relationship between lecturers' remunerations/incentives and their research output. This implies that an increase in such motivational factors would significantly bring about increase in research effort of individual lecturers and that of the university in question.

Many previous research findings established a positive relationship between incentive packages and job performance such as Iman (2003); Ntakeden (2005); Ezenwafor (2006); and Osifila (2011). Incentives can serve several functions such as initiating action, changing or suggesting goals and intentions and ensuring commitment. In scientific management theory the worker is seen as an economic man that can be induced to work effectively and efficiently through economic incentives.

The finding here corroborated that of Fabiyi (2000) who reported that salaries, promotion prospects, recognition, welfare package, staff development scheme and office accommodation were significantly related to teaching effectiveness. The analysis on table 19, reveals that 71.1% of the lecturers affirmed that university lecturers were generally not appropriately remunerated. 77.3% also

opined that adequate allowances were not given to lecturers for good medical, transport and accommodation facilities. Research findings have revealed that there was a strong link between lecturers motivation and performance. Ali's diary (as cited in Aigboje 2007) observed that poor salaries have been the major bane of the Nigerian University System.

Similarly, Ajeyalemi (2002) lamented the Nigerian lecturers situation when he stated that at the tertiary level, members of the teaching staff were frustrated due to poor working conditions and unconducive research and teaching/learning environment. The deplorable working condition of lecturers have actually made research in Nigerian universities a strenuous task (Aghenta, 1992). In the same vein, Jubril's diary (as cited in Collingwood 2003) reported that the pay package for the average Ghanaian professor was about 8.7 per cent of that of his counterparts in South Africa and 10 per cent of that of counterparts in Zimbabwe. He maintained that the biggest obstacle in the area of research appears to be financial deprivation. He further accentuated that though the government had improved the salaries of lecturers, yet the salaries of a full professor is still low by African standards. It is alleged that these unfavourable remuneration packages are responsible for the migration of Nigerian academics and other professionals to other countries, such as South Africa, Botswana, Saudi Arabia and the United States of America.



Further result in the study revealed that 85.3% of the participants declared that lecturers were not provided with research grants to enhance their research output. Considering the importance of research in national development, Babalola (2007) asserted that research grants to universities should be given priority. Available data indicate low levels of investment in research capacity in Nigeria as a result of poor funding. A consistent finding has been that research output is highly skewed, with relatively few academics contributing to the bulk of research publications and significant number producing little or no output over prolonged periods (Ramsden 1998; Berrell 2000; Barnett and Illurick 2005, McInnis 1998). This study's finding also corroborated the several studies done in other developing nations such as Ghana, Kenya, Madagascar, Mozambique and Tanzania, where poor salaries, lack of adequate research fund, lack of research equipment among others seems to have stultified the growth of research in most institutions of learning. In conclusion therefore, poor remuneration for university lecturers has made it difficult for them to fund research work privately and this has brought about a decrease in their research effort and output.

### **Implications of the Findings for Educational Policy**

The policy implications of this study are very broad. The study has established a positive and significant relationship between adequate provision of physical and material resources and service delivery. For effective decision making, therefore, it becomes imperative for policy makers, NUC, and Ministries, Department and Agencies (MDAs) to modify their policies in line with the findings of this study in order to improve the school system.

Furthermore, as a matter of urgency, policy makers should make necessary policies to ensure adequate provision of these resources. In the face of grossly inadequate modern day educational facilities, no meaningful teaching and learning can take place.

In addition, the government and the institutions' management should enact policy to ensure regular professional development of lecturers. Policies should be put in place whereby both local and international conferences, seminars and workshops be organised and sponsored by the institutions and the government. Structural adjustment becomes necessary so as to ensure organisational health in the areas of workforce mobilization, personnel training and staff retraining. Study leave and sabbatical leave should be given as and when due. This is very crucial as a result of globalisation and technological changes which call for update of knowledge, skills and attitudes of educational personnel.

The study also found that lecturer's level of ICT compliance was very low and as such policy makers should make it a matter of policy that university lecturers should be computer literate. This is very necessary especially in this era of globalisation and technological advancement. ICT facilities should be made available and accessible to both the lecturers and students by the university management. Policy statement to encourage ICT compliance should be put in place by the university management in the areas of e-pedagogy, e-management, e-admission, e-andragogy and facility provision.

Finally, government should device policies that will ensure that teachers are properly motivated and remunerated. Salaries and other welfare packages of lecturers should be reviewed in order to enhance their productivity. University education should be properly funded by the government.

### **Implications of Findings for Practice**

By implication, the findings of this study can be used to improve practices in the university system. The findings reveal that these institutions do not conform totally to the stipulations of the MAS. Adhering to these requirements would raise the quality of university education.

The findings showed that a relationship was found to exist between adequate provision of educational facilities and teaching effectiveness. Government and the university management as well should endeavour to provide adequate quantity and quality of classroom communication materials and physical facilities in order to enhance quality university education.

Lecturers should know that the constant upgrading and updating of knowledge, skills and attitudes are inevitable in this era of continuous expansion of knowledge, hence the need for regular attendance to seminars, workshops, conferences and sabbatical leave. Academic staff self improvement becomes imperative.

The institutions as well as the government should make funds available to sponsor the listed programmes. Lecturers should endeavour to be ICT compliance by attending seminars, workshop and conference on ICT. They should have their personal computers as practice makes perfect. The salaries and other welfare packages of lecturers should be reviewed upward. Adequate provision of the right quantity and quality of lecturers should be guaranteed to ensure organisational health in the system.

Finally, inter university networking should be encouraged to allow for students exchange programme, locally and internationally, sabbatical leaves, locally and internationally should be highly encouraged.

### **Contributions to Knowledge**

1. The study developed and used a strong model for resource quality, service delivery and quality assurance in university education.
2. The study developed and validated, and by application to this current research, standardized instruments for data collection namely, Lecturers' Quality Evaluation Questionnaire (LQEQ) and Students' Quality Evaluation Questionnaire (SQEQ). These could be used for the assessment of the organisational health of other institutions in the country.
3. The study was able to indicate unique strategies for investigating ineffective service delivery processes in university education system.

4. The information in concrete data provided in the study could be used to initiate policies on quality university education as a way of enhancing achievement of university education.
5. The study generated baseline data that could be utilized to reformulate the most realistic and effective policies on quality university education that will transform Nigerian educational system with sustainable developmental focus.
6. The study's results confirm existing claims or perception on university education quality indicated deficiencies in the area of inadequate provision of classroom communication materials, physical facilities, quantity and quality of lecturers, lecturers' professional development, ICT compliance, incentives and wage related issues.

### **Recommendations**

University is a specialized institution where high-level manpower, skills, knowledge, and ideas are produced to generate sustained development. For quality assurance to be achieved in the system, the following recommendations are proffered based on the findings of this study.

1. NUC should set up committees in the various institutions to serve as watchdogs to supervise and monitor the implementation of the content of the MAS document as well as the implementation of the recommendations of accreditation panel and other supervisory teams. This committees should provide feedback mechanism to the commission for immediate action.

2. There should be laid down measures to sanction the institutions that do not meet with the stipulated standards or those who do not conform or adhere to laid down rules and regulations of the MAS. This will serve as a deterrent to others.
3. The university as well as the government should provide adequate quantity and quality of classroom communication materials, physical facilities and personnel for effective teaching and learning.
4. There should be regular attendance to seminars, workshop and conferences which should be sponsored by university management as this will help lecturers to upgrade and update their skills, knowledge and ideas. Secondly, policy makers should make it mandatory for all lecturers to be computer literate to enable them compete in this modern world of globalisation and technological advancement. Both the government and the institutions should make available ICT facilities to both the lecturers and the students.
5. Finally, these institutions should be properly funded by the government as this serves as the underlying factor to major constraints to quality university education in Nigeria; not only that lecturers should be properly remunerated, special grants should also be given to every university in Nigeria for strategic planning.

## **Conclusion**

Globalisation and technological advancement in today's modern world demands qualitative university education to enable Nigerians compete favourably with their counterparts in other nations.

The goal of university education is attainable with practical application of TQM strategies and principles to service delivery to improve teaching, learning and research activities and output. The fact still remains that the quality and quantity of the material, physical and human resources needed for the enhancement of university education are lacking in these institutions and as such their quality assurance cannot be guaranteed. Furthermore, professional development to enhance the knowledge skills and attitudes of lecturers is not given necessary priority by the institutions management.

Consequently these challenges have posed a big problem to our institutions in today's globally competitive knowledge economy. Education being dynamic, demands that Nigerian academicians must always keep abreast with this dynamism in order to compete in the global economy.

## **Suggestions for Further Research**

This study investigated the resource quality and service delivery in selected universities in south east Nigeria. Resources available for quality university education are grouped into physical, material, human and financial. This study

concentrated on the first three resources and partly on the last resource, hence other studies could be conducted on funding of university education and service delivery.

This study also focused on only the federal and state universities. A similar study can be carried out on resource quality and service delivery in private universities. Again, some of the principles and strategies of TQM were utilized in this study, other studies can be done on TQM as a whole.



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**APPENDIX I**  
**DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND**  
**PLANNING, SCHOOL OF POST-GRADUATE STUDIES,**  
**UNIVERSITY OF LAGOS, AKOKA, LAGOS**

**STUDENTS' QUALITY EVALUATION QUESTIONNAIRE (SQEQ)**

Dear Student,

This questionnaire is solely for research purpose. It is designed to collect data on the indices of quality and service delivery in University Education. Your honest response is hereby solicited and will be treated with utmost confidence.

**SECTION A: PERSONAL AND INSTITUTIONAL INFORMATION**

1. **Name of University:** \_\_\_\_\_
2. **Faculty:** \_\_\_\_\_
3. **Type of Ownership:** Federal (        ) State (        )
4. **Gender:** Male (        ) Female (        )
5. **Age:** 16-20 years (        ) 21-25 years (        ) 26-30 years (        ) Above  
30 years (        )

**SECTION B: QUALITY EVALUATION QUESTIONS**

**KEY:** Please tick (✓) the column of the option: **Strongly Agree (SA)**, **Agree (A)**, **Disagree (D)** or **Strongly Disagree (SD)** that best describes your opinion on each item

S/N	Adequacy of classroom based communication materials	SA	A	D	SD
1.	There is inadequate classroom communication materials in the school for effective classroom interactions				
2.	Mega-phones, projectors, other public address systems, etc are not enough in the departments for teaching combined/large classes.				
3.	ICT facilities, equipment and tools are not adequate for the students' population.				
4.	Instructional materials are adequately available for the use of lecturers to make their teaching in class more practical and interesting.				
5.	Classroom based communications materials are very important to teaching and learning, as such should be made adequately available.				

*	Physical facilities adequacy and conduciveness	SA	A	D	SD
1.	Available physical facilities are inadequate and uncondusive for qualitative academic work				
2.	There are inadequate classroom blocks, desks and chairs to contain the increasing students' population during lectures				
3.	The available classrooms are not spacious and conducive for effective teaching and learning.				
4.	Lecturers are not provided with separate well equipped library space and facilities for research.				
5.	The school lacks relevant laboratories, equipment and				



	workshops for practical teaching.				
6.	There are inadequate office accommodations for the comfort of lecturers to carry out their academic activity.				
7.	The school library facilities in terms of size, space and furniture are not enough for students' studies and research work.				
8.	There are not enough lecture theatres for teaching large classes of students.				
9.	Hostel facilities are inadequate for the student population				
10.	The school physical facilities maintenance and sewage management is very poor.				
<b>*</b>	<b>Academic Staff Strength</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	The available lecturers are saddled with a lot of responsibilities that bear negatively on their effectiveness.				
2.	The number of lecturers in the department is inadequate for the courses run in the department.				
3.	The student-teacher ratio in the school has grown beyond the capacity of the available lecturers.				
4.	The lecturers in the department are always faced with a more than required workload to handle.				
5.	Some courses in the department are not adequately taught because of lack of relevant lecturers to teach them.				

<b>*</b>	<b>Curriculum Modification for teaching-learning effectiveness</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	University Education curriculum is not intermittently modified as supposed in Nigeria and this affects teaching effectiveness in the universities.				
2.	It is the same thing students are taught year after year.				
3.	The contents of the curriculum are not constantly reviewed in line with the progressive development in global education.				
4.	The curriculum is outdated compared to that of the universities in the western world.				
5.	The curriculum is not intermittently reviewed to ensure the continuous relevance of Nigerian graduates to the world of work.				
<b>*</b>	<b>Teaching effectiveness</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	The lecturers are always well prepared for the class.				
2.	Students are provided with clear explanations of important issues and principles in the course by the lecturers.				
3.	The lecturers are responsive to students' views and comments.				
4.	The courses are always presented to students in a well-organized manner by the lecturers.				
5.	The lecturers do show thorough and in-depth knowledge of their courses.				
6.	Concerted efforts are made by lecturers to encourage and enhance student learning.				

7.	The lecturers make serious effort to stimulate students' interest in the courses.				
8.	Lecturers are punctual to class.				
9.	They do not miss their lectures without serious reasons.				
10.	They always cover their course outlines before the end of semester examinations.				
11.	Adequate assignments and tests are given to students by lecturers in each course every semester.				
12.	Students are subjected to writing enough research term papers and examination in their various courses.				

## APPENDIX II

**DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND  
PLANNING, SCHOOL OF POST-GRADUATE STUDIES,  
UNIVERSITY OF LAGOS, AKOKA, LAGOS**

### **LECTURERS' QUALITY EVALUATION QUESTIONNAIRE (LQEQ)**

Dear Sir/Madam,

This questionnaire is solely for research purpose. It is designed to collect data on the indices of quality and service delivery in University Education. Your honest response is hereby solicited and will be treated with utmost confidence.

#### **SECTION A: PERSONAL AND INSTITUTIONAL INFORMATION**

1. **Name of University:** \_\_\_\_\_
2. **Faculty:** \_\_\_\_\_
3. **Type of Ownership:** Federal (      ) State (      )
4. **Gender:** Male (      ) Female (      )
5. **Marital Status:** Married (      ) Unmarried (      ) Others (      )
6. **Academic Qualification:** Bachelor Degree (      ) Master Degree (      )  
M. Phil. (      ) Ph D (      )
7. **Status/Rank:** Professor (      ) Associate Professor (      ) Senior Lecturer (      )  
Lecturer I (      ) Lecturer II (      ) Assistant Lecturer (      )
8. **Years of Experience:** 1-5 years (      ) 6-10 years (      ) 11-15 years (      )  
Above 15 years (      )

## SECTION B: QUALITY EVALUATION QUESTIONS

**KEY:** Please tick (✓) the column of the option: **Strongly Agree (SA)**, **Agree (A)**, **Disagree (D)** or **Strongly Disagree (SD)** that best describes your opinion on each item

<b>*</b>	<b>Lecturers' professional development and research output</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	Professional development enhances job performance				
2.	The university sponsors lecturers to local and international conferences				
3.	Seminars, workshops and conferences are intermittently organized by the university.				
4.	Study leaves and sabbatical leaves are easily granted to lecturers for out-of-job experience.				
5.	Lecturers are provided with research grants for professional development in research and publications.				
6.	Publication of journals is seldom sponsored by the university at both the faculty and departmental levels.				
<b>*</b>	<b>Lecturers ICT compliance and research output</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	The use of ICT expedites teaching and research activities and output.				
2.	Lecturers have not been fully acquainted with the use of most ICT facilities.				
3.	Most of the lecturers still find it difficult to use ICT facilities to teach.				
4.	Experts are most times invited to help lecturers manage ICT facilities before they can be used to teach or make presentations.				

5.	ICT facilities are to a great extent not adequately accessible to lecturers.				
6.	The university has not made adequate provisions for ICT facilities for faculties and departments.				
7.	Many lecturers do not know how to maximize the use of Internet services for research activities and international publications.				
<b>*</b>	<b>Lecturers' remunerations and incentives/research output</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	University lecturers are generally not appropriately remunerated.				
2.	Cash awards and bonuses are given to lecturers for outstanding performance in teaching and research.				
3.	Adequate allowances are given to lecturers for good medical, transport and accommodation facilities.				
4.	Lecturers are provided with research grants to enhance their research output.				
5.	Conference and seminar allowances are given to lecturers to enhance their skills and output.				
<b>*</b>	<b>Quantity of research output</b>	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
1.	Too much workload negatively affects the time lecturers give to research.				
2.	Lecturers engage in research only when promotion is imminent.				
3.	The quantity of journals published by my university is far below what is expected of it.				
4.	Some faculties and departments in my school do not have quality journals.				

5.	Most journals of Nigerian universities are not given adequate acceptability in western world.				
6.	Many lecturers in the universities do not publish because of financial constraint.				
7.	Quantity and quality of books published by university lecturers are far below what is obtained in western world universities.				