

The relationship between funding, ICT, selection processes, administration and planning and the standard of science teacher education in Nigeria

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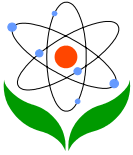
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Abstract

This study was motivated by the premise that no nation grows further than the quality of its education. The paper presents an investigation on the relationships between funding, ICT, selection processes, administration and planning and the standard of science teacher education in Nigeria. The data for the study was gathered through a two page questionnaire administered to 180 respondents who were accessible in the Faculties of Education and Schools of Education of selected institutions. In total, 154 questionnaires were retrieved, representing an 86% return rate. At the same time, the data was analyzed using the SPSS version 13.01 software program. The survey was carried out to discover the perception of university and College of Education



academic and non-academic staff regarding the impact of funding, ICT, selection processes, administration and planning of teacher education programs in Nigeria. It was suggested that both the academic and non-academic staff were disgruntled with the sluggish integration of the investigated variables in both state and federal owned institutions of higher education in general and teacher education programs in particular.

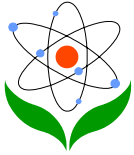
Keywords: Funding, ICT, Selection Processes, Administration and Planning, Standard of Teacher Education, Nigeria.

Introduction

Education is one of the most important needs for the well-being of any society. Because of education's paramount importance, we need good schools and teachers (Kansanen, 2004). Thus, education is a powerful instrument of social progress without which neither an individual nor a nation can attain professional growth.

There is no doubt that the best way to enhance effective instruction in schools is through defined teacher education programs, which is a key towards understanding the knowledge and skills of teaching and learning (Ololube, 2005a, 2005b). The education of pre-service and in-service science teachers is meant to help the individual teacher grow and develop as a person, provide him or her with the skills and professional abilities to motivate children to learn, assist them in acquiring the right types of understandings, concepts, values and attitudes to manage classroom instruction and be productive members of the society in which they are born, grow and live (Lawal, 2003). Therefore, it is believed that with high-quality teacher education programs in place, we can guarantee effective teachers in schools thereby insuring first-class teaching that will raise students' academic achievements (Amedeker, 2005; Haron, 1995; Thompson, 1995).

The education of teachers is interesting especially for those who are able to see and compare different educational systems and perhaps have the ability to view them from their own perspective and experience. Probably every educational system can be developed further to achieve among other things better teacher education. The consequence of which is better teachers. In Nigeria, the responsibility for the education of teachers in the universities, for instance, belongs to the Faculty of



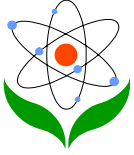
Education while teacher education as a subject belongs to the Department of Teacher Education. The Faculty of Education, as well as the Department of Teacher Education, strongly defend the right to educate student teachers. Several other departments in the faculty also have strong opinions as to how teacher education should be developed and the tools and the proficiency for carrying it out, and they view the future (subject) teacher as a reflective, autonomous professional who is capable of viewing his/her work from a scientific point of view (Merri & Maaranen, 2002).

However, there are people and institutions that do not consider teachers' pedagogical studies as necessary at all. According to Owens (2004, p. 406), many colleges and universities in the United States of America took the position that teacher education was unworthy of inclusion in the august ranks of academe. Yale University's example was not atypical: it simply abolished the small department of education that it once had. In many institutions of higher education, schools of education struggled with little support and often were isolated from either the leadership of the university or the faculty in the other schools. Nevertheless, by the year 2000, according to Owens, universities were being called both to account and to action in taking responsibility for meeting the need to educate and train the 2.5 million new teachers who would be needed in the United States in the first decade of the twenty-first century because "inevitably as school reforms unfold, increased attention was focused on the education of teachers. Not only was there rising dissatisfaction with the achievement of students in schools, but with the quality of instruction that students receive." Thus teacher education still plays an indispensable role in national development.

Purpose of the Study

The Federal Government of Nigeria has adopted education as an instrument for effecting national development...All teachers in our educational institutions, from pre-primary to university, will be professionally trained. Teacher education programs will be structured to equip teachers for effective performance of their duties (Federal Government of Nigeria, 1989).

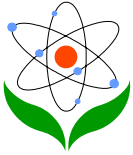
The National Policy on Education in Section 47 states clearly: "All teachers in tertiary institutions shall be encouraged to undergo training in the methods and techniques of teaching". This is to enhance their teaching, but this policy, laudable as it may be, is yet to be implemented (Olujuwon, 2003).



In Nigeria, teacher education through Colleges of Education both at the federal and state government levels was meant to improve teacher preparation. Institutes of Education and Faculties of Education in various universities were also established to provide effective and professional teacher education programs. In such institutions, student teachers are prepared to develop habits that will help them become effective teachers who will shoulder responsibilities, be innovative and conduct themselves in ways that are worthy of emulation by their future pupils since studies have shown that teachers tend to teach the way they were taught. It is presumed that Nigerian teachers are prepared to cope with the monumental task that lies ahead of them. Accordingly, teachers must be ready to share new information and skills with their fellow teachers, seek more knowledge on their own initiative, and above all, be flexible and willing to experiment and not be afraid of failure. Flexibility is built into their total professional and academic make-up, and it is hoped that they will be helped through regular in-service training to keep abreast of the new techniques, skills and research in their fields (Lawal, 2003).

However, despite such efforts to establish teacher education programs to prepare effective teachers in Nigeria, there have been some fundamental problems from inception. These problems have hindered the successful implementation of effective teacher education. This inspired my desire to examine the effectiveness of teacher education programs in Nigerian institutions and the problems they encounter. In addition, the overall purpose of this study is to verify the research hypotheses stated below as a basis for making assertions that can inform Nigerian institutions of higher education on how to improve the quality of their teacher education programs. Thus, the research hypotheses and objectives of this research study are to theoretically and empirically ascertain the degree to which the intrinsic and extrinsic factors impact the development of teacher education programs. Specifically, to provide guidance and direction to this investigation, it addressed five statistically testable research hypotheses:

- There is no significant relationship between the nature of funding and the standard of teacher education programs in Nigeria.
- There is no significant relationship between the ICT usage and the standard of teacher education programs in Nigeria.
- There is no significant relationship between the administration and planning processes and the standard of teacher education programs in Nigeria.

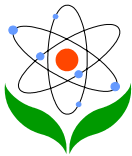


- There is no significant relationship between the pre-service teacher selection processes and the standard of teacher education programs in Nigeria.
- There is no significant relationship between the standard of teacher education programs in Nigeria and the nature of funding, ICT usage, the administration and planning processes and pre-service teachers selection processes.

Theoretical Framework

Teacher education is one of the most frequently investigated themes in professional education journals. Nevertheless, the fact remains that it is difficult to provide a unified description of an effective teacher education. And why is the education of teachers very essential to the development of students? As there are many academic writings on this concept, there are numerous definitions. However, many authors agree that the concept of effective teacher education can refer to the process as well as product. If the emphasis lies on achievement, effectiveness implies the predominance of the product. Thus, effective teacher education depends on simultaneous attention being granted to the two components of the development process: The process component consists of the relations between students and student teachers and educators as well as study climate and the product component consists of student teachers' skills, disposition, behaviors and attitudes (Amadeker, 2005; Ololube, 2006a, b). Effective teacher education programs are not only the task of specific teacher educators or a university education, but must be seen as a cross-curricular concern of all university professionals (Merri & Maaranen, 2002).

In addition, teacher education is part of the education process or training that deals with the art of acquiring professional competencies and professional growth. It is an essential exercise that enhances the skills of learning and teaching. Teacher education is designed to produce a highly motivated, sensitive, conscientious and successful classroom teacher who will handle students effectively and professionally for better educational achievement. According to Amedeker (2005), inadequate teacher preparation programs cause the majority of teachers' inability to demonstrate adequate knowledge and understanding of the structure, function and development of their disciplines. Therefore, an effective teacher education program is a prerequisite for a reliable education system which lends confidence to both teachers and students when learning is coordinated effectively and professionally. Thus the problems inherent in teacher education must be rectified and solved (Lawal, 2003). According to



Hargreaves (1994) and Hargreaves and Jacka (1995), teacher education is the transformation of the latent curriculum into an area for open critical debate. In summary, the author proposed a model which illustrates teacher education as a means for the professional growth of teachers. This in turn leads to highly motivated, sensitive, conscientious and successful classroom teacher. And to keep abreast with the new techniques, skills and research in the field, regular in-service training is needed (see figure 1).

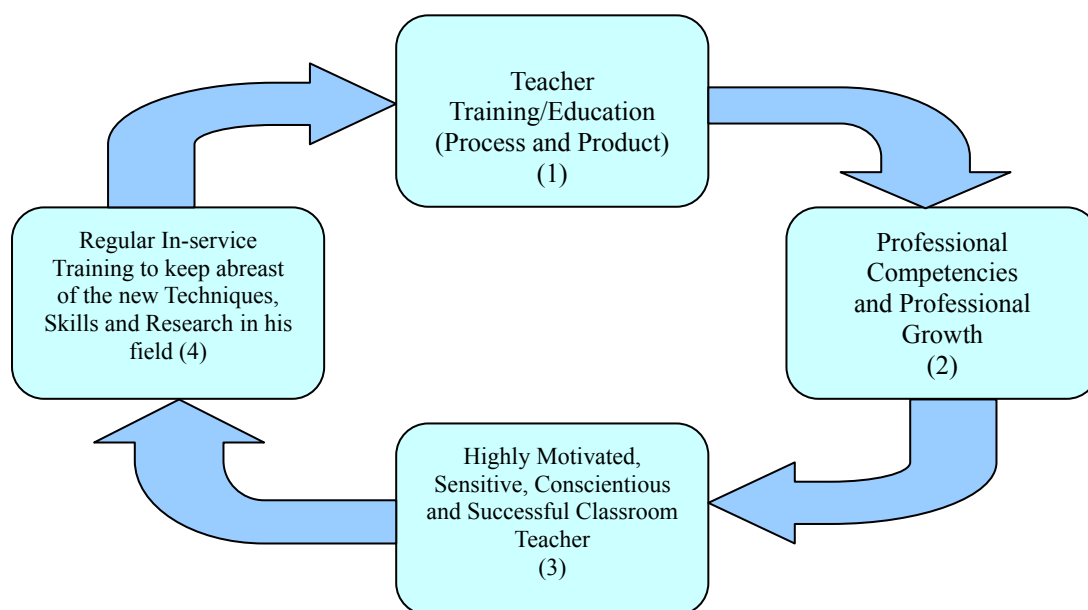
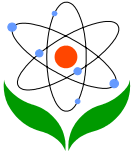


Figure 1: Teacher Education and Professional Growth

Review of Related Literature

The purpose of this section is to examine the research studies that investigated the nature and problems of teacher education, and to examine the implication for the development of education for sustainable development. This review does not, however, cover a wide range of areas. The primary intention here is to examine the range of activities that hinder effective teacher education practices in Nigeria and to discuss pertinent prospects at the end of the paper.

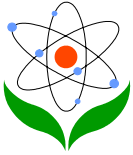


Teacher Education

Teaching is a diverse and complex activity. As infants progress from childhood through adolescence into adulthood, they are taught by their parents, teachers and other adults, not to mention peers and the media. Clearly, the teaching they experience along the way varies greatly: teaching a toddler to walk is very different from teaching the fundamentals of differentials of calculus. Yet even when there is a common goal it can be pursued in different ways. Consider the development of civic responsibility for example: home, school and various community organizations pursue similar objectives but the teaching methods employed to generate the requisite knowledge and behaviors are very different. The point of these examples is to demonstrate that teaching is multi-dimensional and is not susceptible to simple-minded analysis or prescription—neither of which, sad to say, is in short supply. Effective teaching draws on a multiplicity of cognitive, affective and interpersonal elements. To appreciate fully the challenges of teaching excellence, we have to bear in mind not only the extraordinary diversities of these elements but also the many different ways that effective teaching can draw on them to construct effective teaching behavior (Hegarty, 2000).

Thus, it is predicted that effective teaching is an intelligent, knowledge-based activity that takes proper account of teachers' professionalism. This understanding stems from the condition that teaching education and training are an embodiment of professional development. Through teacher education and preparation, pre-service teachers learn through rigorous professional development courses in education. Here they learn concepts in their subject areas and also learn strategies for teaching those subjects. They have the opportunity to practice some of the skills required for teaching during micro-teaching and peer-teaching. There, they learn to develop assessment portfolios for themselves and gain insight into how their progress will be monitored when they are out during internship (teaching practice proper) (Amedeker, 2005; Eze, 2001).

Intending teachers and teachers need help either through pre-service or in-service teacher education programs to develop their content knowledge, their pedagogical skills or the realization of certain practices. Shulman's (1987) introduction of the term pedagogical content knowledge (PCK) captured that the combination of pedagogical content knowledge and pedagogical skills are a necessary prerequisite of the organization of teaching and learning activities. According to Shulman, pedagogical

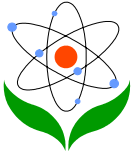


content knowledge has to do with the teacher's ideas regarding what it is to be an effective teacher and how one goes about teaching effectively. Since the introduction of PCK, the use of PCK as a concept has gained ground in educational research.

The dimensions of teacher education and preparation of teachers include the nature and extent of guidance given to them. Their success in teaching depends on their knowledge, attitude toward teaching, academic self-concept and explicit understanding of the profession. Teacher education and preparation, therefore, provide teachers with knowledge, skills and aptitude to be familiar with the art and science of teaching that in turn gives them confidence to carry out their task. In the same vein, the purpose, relevance, degree of structure, methods of teaching and management of teaching provide success for classroom practices (Amedeker, 2005). According to Yusuf (2002), the main objectives of teacher education are to develop awareness, knowledge, attitudes, skills, evaluation ability and full participation in the teaching and learning process.

Funding

Education funds refer to budgetary allocations that are readily available or that are going to be made available at a stated time by governments or institutions for the purpose of paying salaries, allowances and benefits, and the building and provision of educational infrastructures to aid teaching and learning. Education funding in Nigeria has gradually been on the rise culminating in an eleven per cent allocation in the year 2006 budget. Nigeria has struggled to meet the 26 per cent allocation recommended by UNESCO as a means of attaining quality education and education for sustainable development 2005-2014. Despite improved budgetary allocation to the education sector in Nigeria, the condition of the sector remains worrisome. Conditions of facilities are still a far cry from acceptable basically due to past under-funding and systemic corruption. Education is an essential service that must be scrutinized, monitored and constantly evaluated and fully exorcised from the grip of corruption if we are ever going to attain the education for all (EFA) goals. This realization has elicited stringent calls for effective utilization of funds to solve the myriad of problems in the education sector. The impact of corruption is pervasive both in terms of the drain on national resources and its corrosive influence on institutional efficiency and service delivery in all sectors including teacher education (Samuel, 2006).

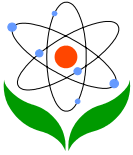


In spite of the federal government specification in the National Policy on education that “teacher education will continue to be given a major emphasis in all our education planning because no education system can rise above the quality of its teachers” (Federal Government of Nigeria, 1989), education has continued to be grossly under funded. Inadequate finance from both federal and state governments militates against the progress of the Colleges of Education and teacher education generally, and this indicates that professionalism is a very remote possibility (Lawal, 2003). Equally, according to Odenigbo (n.d), financing educational ventures in Nigeria especially since the newly created states, has been very poor, to say nothing of training the Teachers (Tutors / Teachers) at all levels of education.

The unsatisfactory funding for teacher education programs stands as one of the major factors working against effective implementation of the programs. The consequences of the under-funding of this sector are immediate; for example, it results in the inability to purchase instructional materials to effectively prepare pre-service teachers like computers, text books, laboratory equipment, audio visual aids, slides, video clips, electronic white boards, electronic conferencing materials, enough chairs and desks in classrooms to keep students from having to stand to receive lectures to mention a few. The dilapidation that characterizes Nigerian schools is very serious (Ololube, 2006a).

ICT and Teacher Education

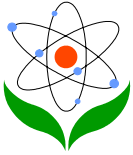
Recently the integration of information and communication technologies (ICTs) in university teaching and particularly in teacher training has been the topic of much debate (Larose, *et al.* 1999). As educational systems around the world are under increased pressure to use the new information and communication technologies (ICTs) to teach students knowledge and skills they need in the 21st century, teacher education institutions are faced with the challenges of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices (UNESCO, 2002). As a result, teacher education has not been unaffected by the penetrating influence of information and communication technology (ICT). ICTs’ advances have provided a rich global resource and collaborative environment for dissemination of ICT literacy materials, interactive discussions, research information, and international exchange of ideas which are critical for advancing meaningful educational initiatives, training a high skilled labor force, and understanding issues related to economic development.



Certainly, ICT has impacted the quality and quantity of teaching, learning, and research in traditional distance education institutions around the world (Ifinedo & Uwadia, 2005; Ifinedo & Ololube, 2007). In concrete terms, ICT has enhanced teaching and learning through its dynamic, interactive, and engaging content; it has provided real opportunities for individualized instruction. Information and communication technology has the potential to accelerate, enrich, and deepen skills; motivate and engage students in learning; help to relate school experiences to work practices; help to create economic viability for tomorrow's workers; contribute to radical changes in school; strengthen teaching, and provide opportunities for connection between the school and the world. Information communication technology can make the school more efficient and productive, thereby engendering a variety of tools to enhance and facilitate teachers' professional activities (Yusuf, 2005).

Nigeria as a nation, however, came late and has progressed slowly in the use of ICT in all sectors of the nation's existence especially in teacher education. This is a result of chronic limitations brought about by economic disadvantages and government policies. These factors have direct consequences on the nation's educational development. Fundamentally, the slow access to basic ICT equipment, low internet connectivity and lack of computers, and inadequacy in the use of audiovisual materials and equipment including films, slides, transparencies, projectors, globes, charts, maps, bulletin boards, plus programmed materials, information retrieval systems, and instructional television in teacher education programs are barriers to the effective and professional development of teachers in Nigeria (Ololube, 2006).

Thus, teacher education and training are a means for professional updating which deals with all developmental functions directed at the maintenance and enhancement of one's professional competence. Teachers' professional growth supports the idea that ICT in teacher education and training is an important factor in job effectiveness and development. This is so because teachers' education and training are generally considered to be essential for school effectiveness and improvement (Larose, *et al.* 1999). It was further argued that teachers who are bent on improving their competence are likely to contribute directly or indirectly to the growth of student achievement. Equally, Jarvis (1983), Keen (1991), Creemers (1994) and Kautto-Koivula's (1997) studies concerning their experience in staff training and education clearly demonstrated the need to offer teachers better opportunities to educate and develop themselves in order to create understanding between their job and their effectiveness.

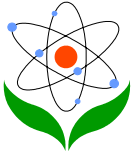


Administration and Planning Process

A very remarkable problem that has inhibited effective teacher education programs over the years in Nigeria is the lack of effective administration and planning because the success of any educational system is hinged on proper planning, efficient administration and adequate financing (Mgbodile, 2001). This problem is not peculiar to developing countries; educational institutions in developed countries still compete for public funds with other sectors of the economy so that they can improve the quality of the resources available for teaching and learning. When made available, the resources are to be put into maximum use so that educational objectives can be achieved (Whawo, 1993). Educational administration and planning and manpower training and development have evolved as a discipline to guide the allocation and utilization of educational resources both human and material in the school system. This is required to arrest areas of wasted resources to make educational production more effective. In this regard, educational administration, planning, and manpower training and development have become indispensable tools in the management of activities in all spheres of life (Ololube, 2004).

Educational administration here includes essentially a service, activity or tool through which the fundamental objectives of the educational process may be more fully and efficiently realized. It is the activities of educational organization as geared towards the attainment of goals of teaching on the part of teachers and learning on the part of learners (Aderounmu & Ehiamentalor, 1985; Peretomode, 1991). Administration includes organization and structure, proprietorship and control, inspection and supervision. These functions may be discharged efficiently with a cadre of staff that is adequate in numbers and quality.

The planning process (analysis, formulation, implementation and control) is the plan itself. A plan is a blueprint for action; it prescribes the necessary activities for the education industry to realize its goals. Therefore the purpose of planning is simply to ensure that the educational industry is effective in its activities. In a broader sense, an educational system must develop a plan that ensures that the appropriate products and services are offered to its students. More specifically, planning gives guidance and direction to members of an organization as to the role in delivering its products and services. Such a scheme of arrangement is to be made beforehand by preparing a purposed method of achieving the desired objectives (Whawo, 1993).



Strategic planning process is the critical stage in the history of teacher education in Africa. The first stage of strategic planning process, which involves evaluating the present situation of African countries' teacher education programs, is poor, because it requires a thorough evaluation of the internal operation of the education system. The purpose of internal analysis is to identify the educational system assets, skills, and resources that represent its strengths, weaknesses, obstacles and challenges thus identifying strategic alternatives as well as evaluating and choosing the strategy that provides the optimum performance of the teacher education program. Implementation has been inconsistent and in most cases, statistical deficiencies as well as inadequate skilled personnel inhibits the planning process. The monitoring of the implementation process to ensure that it is in line with the expected performance has been insufficient (Ololube, 2006b).

Hence, the rising outcry for educational accountability is a universal issue that necessitates planning. Educational institutions must account for resources invested in them by the society in terms of how provided resources have been utilized to meet educational goals and objectives. This is a logical philosophy which underlines the process of feedback in the education process. Accountability in the school system examines the efficiency and effectiveness of education production. Educational administration and planning coordinate the activities of the school system toward goal realization. Experts (e.g., Aderounmu & Ehiamentor, 1985; Enahwo & Eferakeya, 1989; Whawo, 1993) agree that factors such as unplanned activities that are random, dysfunctional and not directed towards the accomplishments of organizational objectives have been partially responsible for the ineffectiveness of schools. The enthronement of mediocrity in all spheres of life in Africa is a byproduct of these factors. That is, many African educational systems have endlessly failed to prepare their youth for successful and industrious living and involvement in national development (Foster, 1999). Likewise Niemi (1996) noted that for any educational system to develop, effective teacher education and educational administration and planning are necessary as education and planning are indispensable characteristics for teacher empowerment and the changing of their status in the society. Figure 2 illustrates the basic elements for the achievement of educational goals. This involves the acquisition of skills-accountability-commitment.

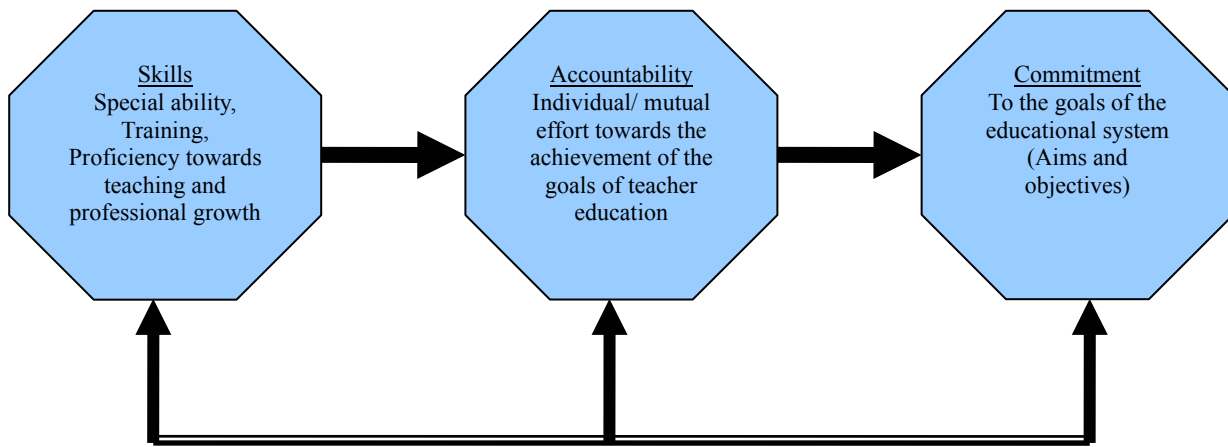
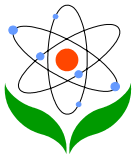
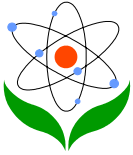


Figure 2. A Mini Model of Basic Elements for Goal Achievement

Selection Process

Selection of candidates into various teacher education programs is based on those candidates meeting their entrance requirements. Entrance requirements are arbitrary; they vary from state to state and from college to college. The success of a candidate depends on the entrance examination statement of results without consideration of a purposeful interview. However, students put in applications for admission without a sincere commitment to teach in future. Some, after the completion of their course work never contemplate remaining in the profession while others eventually desert teaching for “better” alternative jobs (Lawal, 2003).

The admission policies of various Colleges of Education in Nigeria are uneven and the case is even more uncertain in the universities despite the specification by the Nigerian University Commission (NUC) (Ololube, 2004). Nevertheless, the poorest students in terms of academic achievements seem to be most suitable for absorption into the teaching profession. Let us not forget that the same way the engineer needs long years of training to understand the complex equations and their mechanical relations, medical doctors require long years of study to appreciate the intricacies of human anatomy and lawyers also need to be imbued with a good knowledge of legal maneuvers and court room intrigues, this is how teachers need to acquire a vast



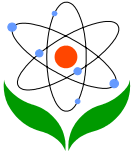
repertoire of knowledge of the principles, methods and processes of education, which is as eclectic as all the previously mentioned professions (Ololube, 2006b).

A cursory evaluation of the admission requirements of the various institutions of higher learning reflect the values of the educational system. One finds that the best minds are admitted into the natural and physical science programs while the next category of applicants are absorbed into the social, management or environmental sciences, the liberal arts and the humanities. The third category, those on the lowest rung of the ladder in terms of intellectual attainment, are pushed to the faculties of education or schools of education ostensibly to mark time while they are squeezed to the more 'prestigious' faculty the following academic year. The advents of poorly trained, unqualified and ill-motivated teachers in the Nigerian educational system have had far reaching effects on its national development as there is no way a brilliant child will go into the teaching profession that has brought so much pain and sadness to its employees. When the best products of the school system are not encouraged to enter into such a noble profession, the platform is made ready for the mischief makers to take over because the faculty or school accepts waivers for students in order to fill its quotas (Nigerian Tribune, January 11, 2004).

A survey conducted (Ololube, 1991) to ascertain the factors that are responsible for the choice of career among secondary school students in Nigeria revealed how society has carefully stigmatized members of the teaching profession resulting in a majority of students contemplating professions like engineering, law, medicine, accounting, banking etc. The study found very few children who are interested in becoming teachers (see also, Okwubunka, 1994).

Issue of Standard

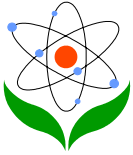
The decline in the quality of education in Nigeria has become too glaring within the past 20 years to be glossed over by anybody who is aware of education's key role as an instrument of social transformation and development in society (Iyamu, 2005). The over direction of student teachers by colleges and university lecturers which results in the lack of proper imagination and initiative on the part of most student teachers, makes them depend on lecturer's notes, handouts, and examination materials thereby leading to the production of low quality teachers (Lawal, 2003).



Tertiary institutions that provide teacher education programs are in crisis. Most lecturers are now either contractors, that is, supplying goods and services to schools or engage in commercial business within and outside the school at the detriment of the academic calling and purpose. For example, some lecturers have turned their offices into commercial centers either doing typesetting services or engaging in buying and selling petty goods. Some have turned to selling cars; that is helping people to bring cars across the border and ferry them into the country. Some of them argue that they have had to resort to this “moonlighting” to augment their salaries which are meager and not regular. The tertiary institutions that are established to promote intellectual excellence, good virtues etc. have deviated from their traditional obligations of teaching, research and development of manpower. We are faced daily with reports of students caught in armed robbery, rape, assassination etc. A majority of these institutions have misplaced their goals and allowed social and political factors to create crises in their academic community. It is a known fact that tertiary institutions do not get their entire approved annual budget (Olujuwon, 2003). Thus, researchers and commentators persistently argue that Nigerian public schools are experiencing dwindling standards in the quality of education received as a result of poor quality teacher education programs.

The inability of most Nigerian secondary school and university graduates to communicate effectively in written and spoken English is an obvious sign of the waning quality of education. Umoh (2006) described the situation “Although I am not an English language master, but one thing that baffled me in hearing these kinds of uncommon gaffes in English grammar from people who had passed one examination or the other in institutions of higher learning, or is this the kind of language the lecturers right from the secondary school to the higher institution normally use to teach and set examination for them? And which language have they been using to answer questions and pass to qualify them to be employed as senior staff by multinationals?”

This is apparent in Okeowo’s (2006) argument in which he warned that the low quality of teaching in public schools might hinder the development of the country if not tackled swiftly. According to Okeowo, the phenomenon of mediocre teaching in our public schools is staging an obvious sabotage and coup against further growth of democratization of education. He noted that the poor quality of teachers and their teaching had contributed to the high level of failure in public examinations, and it is a



major problem in the country's educational sector, adding that the drop out rate in schools had also increased. Okeowo stressed that regular, efficient and effective teaching builds a nation while irregular, minimal, zero and incompetent teaching can destroy that same nation. Consequently, Umoh (2006), Malik (1997), Disu (1996), and Urevbu (1997) made it obvious that the poor performances of students in the Senior School Certificate Examination (SSCE) is an indication that the nation's education system is actually falling. They attributed it to several factors ranging from examination problems, lecturer factors, the increased role of authorities within the system, and, most importantly, poor teacher preparatory programs.

Research Methodology

Research Design

The research design used in this study is summarized in Figure 3 bellow. The first row indicates the independent variables (demographic profiles of respondents). The middle rows show the research hypotheses, sources and data collection technique and data analysis techniques. The bottom row depicts the purpose of the study. The design shows the relationships between construct and perceived usefulness.

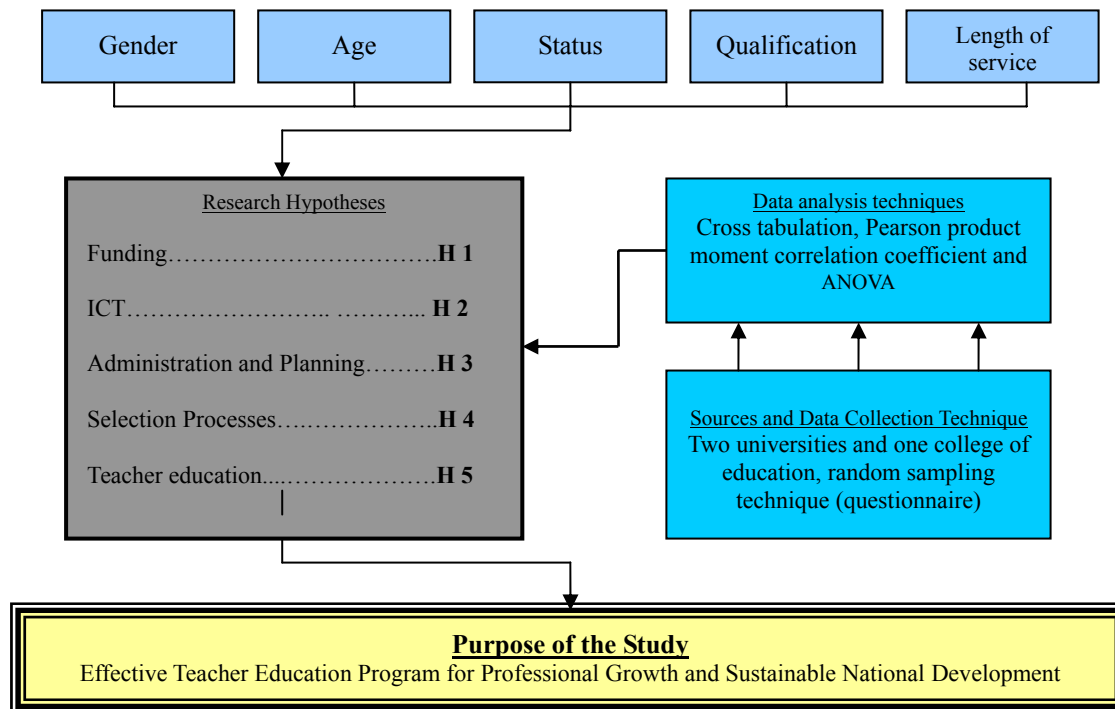
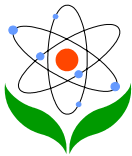
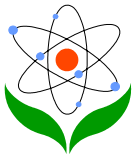


Figure 3. Research Design and Hypotheses Summarized

Research Instruments for Data Collection and Procedures

This empirical study is exploratory in nature. A two-paged structured questionnaire was used to collect data. The questionnaire included two major sections: “A” Personal Information and “B” Teacher education program emphasis scales. Section “A” required the respondents to check the boxes which included their gender, age, status, qualifications and length of service as they applied to them. Section “B”, the core of the questionnaire, required respondents to rate a list of 27 statements including their sub-sections using a 4 point likert scale, where 1 was equal to the lowest and 4 equal to the highest.

The questionnaire’s design was adapted from some questionnaires used by researchers for teacher education program study. The original questionnaires were, however, modified to suit the researcher’s purpose of study. A research assistant who is a graduate of measurement and evaluation was employed to administer the questionnaires to 180 respondents who were accessible in the faculties or school of education in the selected institutions. In total, 154 questionnaires were retrieved. This represented approximately an 86% return rate.



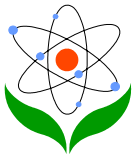
In this study, respondents were classified into two groups: academic ($N=62$) and non-academic ($N=92$) staff of three institutions that offer teacher education programs (two universities and one College of Education). Please see Table 1 for details of respondents' demographic profile. The respondents that comprised the non-academic staff are senior officers of the selected institutions. In spite of the fact that part of the questionnaire's design was adapted and modified from some questionnaires used by researchers for teacher education program study, the questionnaire for this study was test-piloted by 9 academic staff, and 2 non-academic but senior staff from an institution not selected for the study that offers a teacher education program. Their comments assisted the researcher in improving the quality of the final instrument administered. The respondents were assured of confidentiality if they were willing to answer the questions.

Table 1: *Demographic Profile of Respondents*

Demographic profile		Number (N)	Percent (%)
Gender	Female	64	41.6
	Male	90	58.4
Age	25-40 years	79	51.3
	41-Above years	75	48.7
Status	Academic Staff	62	40.3
	Non-academic Staff	92	59.7
Qualifications	First Degree	53	34.4
	Post-graduate Degree	101	65.6
Length of service	5-15 years	81	52.6
	16-Above years	73	47.4

Data Analysis and Consistency of the Study

After the data collection stage, all of the structured items of the questionnaires were keyed into a computer and were analyzed using the Statistical Package for Social Sciences (SPSS) version 13.5 of program on a computer. The core of the questionnaire was analyzed using the *Pearson Correlation Coefficient* statistical tool to determine the significant relationship between funding, ICT, administration and planning, student selection processes and the standard of the teacher education program in Nigeria. One-way-analysis of variance ANOVA was employed to test the



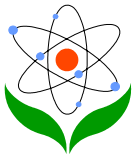
relationships between variables and respondents' demographic profile (gender, age, status, qualifications and length of service). The statistical significance was set at $p < 0.05$. Importantly, an overall reliability alpha estimate of 0.951 was obtained. Thus the instrument was considered to be very reliable.

Table 2: Pearson Correlation Coefficient of Respondents' Answers

		Funding	ICT	Admin. And Planning	Selection Processes	Teacher Education
Funding	Pearson Correlation	1	.869(**)	.542(**)	.900(**)	.677(**)
	Sig. (2-tailed)		.000	.000	.000	.001
	N	154	154	154	154	154
ICT	Pearson Correlation	.869(**)	1	.527(**)	.887(**)	.511(**)
	Sig. (2-tailed)	.000		.000	.000	.000
	N	154	154	154	154	154
Admin. And Planning	Pearson Correlation	.542(**)	.527(**)	1	.643(**)	.175(*)
	Sig. (2-tailed)	.000	.000		.000	.030
	N	154	154	154	154	154
Selection	Pearson Correlation	.900(**)	.887(**)	.643(**)	1	.480(**)
	Sig. (2-tailed)	.000	.000	.000		.000
	N	154	154	154	154	154
Teacher Education	Pearson Correlation	.677(**)	.511(**)	.175(*)	.480(**)	1
	Sig. (2-tailed)	.001	.000	.030	.000	
	N	154	154	154	154	154

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).



Hypothesis 1: There is no significant relationship between the nature of funding and the standard of teacher education programs in Nigeria.

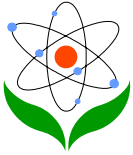
The correlation statistics reported that the nature of poor funding in institutions with teacher education programs is significantly related to the poor standard of education in Nigeria. Lawal (c.f., 2003) noted that inadequate finance from both the federal and state governments militates against the progress of colleges of education and teacher education programs generally. Also, the impact of corruption is pervasive both in terms of the drain on national resources and its corrosive influence on institutional efficiency and service delivery in all sectors including teacher education (c.f., Samuel, 2006). This signals the remoteness of professionalism. A Pearson's (r) correlation value $r = 0.677$, $p < 0.001$ was obtained. Therefore, this result does not support the hypothesis. Thus, the hypothesis was rejected.

Hypothesis 2: There is no significant relationship between the ICT usage and the standard of teacher education programs in Nigeria.

The findings from the analysis for ICT integration in teacher education programs in Nigeria and the effectiveness of teachers showed that there is a relationship between the poor provision and uses of ICT instructional materials during pre-service teacher training and their performances after graduation. Consequently, a correlation value of $r = 0.511$, $p < 0.000$ was achieved. The implication is that respondents were dissatisfied with the level of integration of ICT into teacher education programs. Therefore, this hypothesis is not true, and thus was rejected. This is so because the slow access to basic ICT equipment, low internet connectivity and computers, and the inadequacies in the use of audiovisual materials and equipment in teacher education programs are barriers to the effective and professional development of teachers in Nigeria (c.f., Ololube, 2006a).

Hypothesis 3: There is no significant relationship between the administration and planning processes and the standard of teacher education programs in Nigeria.

The result for hypothesis 3 demonstrated that the poor administrative and planning processes have a significant relationship to the poor standard of teacher education programs in Nigeria. A Pearson correlation value of $r = 0.175$, $p < 0.030$ was obtained which suggests that respondents found that the administration and planning processes in Nigerian teacher education programs is inadequate for the growing need



to improve teacher preparation processes. The low correlation coefficient was likely as the respondents supposed to show slightly different correlation dimension on the effect of administration and planning processes on the standard of teacher education in Nigeria. However, the correlation is significant at $p < 0.05$ level (2-tailed).

Hypothesis 4: There is no significant relationship between the pre-service teacher selection processes and the standard of teacher education programs in Nigeria.

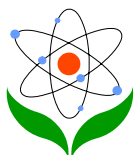
Hypothesis four posited that a significant relationship exists between the poor standard of teacher education in Nigeria and the pre-service teacher selection processes. Consequently, this was shown in the correlation value of $r = 0.480$, at $p < 0.000$ significant level. That is, this hypothesis is true and was accepted. It was found equally true in Lawal (c.f., 2003) and Ololube's (c.f., 2004) findings that the selection of candidates into various teacher education programs was based upon arbitrary and uneven requirements that vary from state to state and college to college. The poorest students in terms of academic achievements seem to be most suitable for absorption into the teaching profession. Hence the poor standard of teacher education in Nigeria.

Hypothesis 5: There is no significant relationship between the standard of teacher education programs in Nigeria and the nature of funding, ICT usage, the administration and planning processes and pre-service teachers' selection processes.

The analysis of hypothesis five showed that the poor standard of teacher education programs in Nigeria is significantly related to the nature of funding, ICT usage, administration and planning processes and pre-service teachers' selection processes at $r = 0.677$, $p < 0.001$; $r = 0.511$, $p < 0.000$; $r = 0.175$, $p < 0.030$ and $r = 0.480$, at $p < 0.000$ respectively. The results revealed that there was a significant relationship between the variables and the standard of teacher preparation in Nigeria. Thus the hypothesis was rejected

ANOVA Analysis

There were no significant differences in the overall ANOVA analysis based on the respondents' demographic variables. Gender showed $F = .429$; and $p > .560$. The results of the analysis of variance for age indicated no significant differences on the variables tested. The values of F were: $F = .451$; $p > .577$. For status, $F = .552$; p



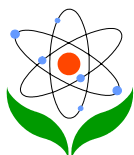
> .459. Whereas based on respondents' qualification $F = .276$ and $p > .688$, for length of service $F = .485$ with $p > .571$. See table 2 for details.

Table 3: Analysis of Variance of the Relationships between Variables and Respondents' Demographic Profile

Demographic profile	Groups	Freq.	(%)	Mean	SD	F Ratio	F Probability Sig.
Gender	Female	64	41.6	3.13	.86	.429	.560
	Male	90	58.4	3.07	.87		
Age	25-40 years	79	51.3	3.02	.86	.451	.577
	41-Above years	75	48.7	2.89	.88		
Status	Academic Staff	62	40.3	2.98	.83	.552	.459
	Non-academic Staff	92	59.7	3.00	.85		
Qualification	First Degree	53	34.4	2.78	.84	.276	.688
	Post-graduate Degree	101	65.6	2.89	.87		
Length of service	5-15 years	81	52.6	2.57	1.02	.485	.571
	16-Above years	73	47.4	2.45	.89		

Discussion of Results and Conclusion

This study explored the diverse factors that militate against effective teacher education programs in Nigeria with the focus on ascertaining the relationship between Funding, ICT, Administration and Planning along and pre-service teachers' selection processes. In addition, the study critically examined and described the relationship between the above mentioned facets and their impact on the successful implementation of teacher education agendas in Nigeria. The research project lasted for a period of 2 years and attempted to develop a relative ranking of the problems encountered by teacher education institutions as perceived and presented through the respondents' answers. The research strategy and design of this investigation however are in tune with other studies in the domain, which makes the study valid and reliable.



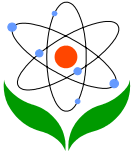
Contrary to the expectation of the researcher, the five hypotheses tested between variables and the standard of teacher education programs were rejected because of their negative relationships to effective teacher education development in Nigeria.

Table 4: *Summary of Tested Hypotheses and their Status*

Hypotheses	Status
Hypothesis 1	Rejected
Hypothesis 2	Rejected
Hypothesis 3	Rejected
Hypothesis 4	Rejected
Hypothesis 5	Rejected

The findings pointed to the fact that funding, ICT, administration and planning along with student teacher selection processes drastically affected the standard of teacher education. Based on the results of this study, neither of the independent variables influenced the respondents' opinion toward the dependent variables. Results of this study further revealed that the respondents were greatly dissatisfied with the insufficient funding and the slow pace of the integration of ICT into teacher education programs. They were also not pleased with the administrative and planning processes, more especially the implementation and control stages. Likewise they were dissatisfied with the pre-service teachers' selection processes. This finding reinforced previous research that investigated the standard of education and science teacher education (c.f., Eze, 2001; Lawal, 2003; Okeowo, 2006, Ololube, 2006b) in relation to the administration and planning processes and the integration of ICT in Nigerian education (Olujuwon, 2003; Yusuf, 2005).

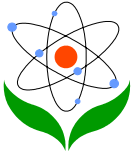
Whilst adding to the claims on this topical issue of science teacher education, the study also helps in providing descriptions and explanations regarding the impact of funding, ICT, administration and planning as well as the selection processes on the poor standard of teacher education. The pertinence of this study can be seen in that it is necessary to ensure that the Nigerian science teacher education programs are given a new lease on life thus making the teaching profession more challenging and inspiring many more intelligent and suitably qualified candidates to become part of the programs. Science teachers should be highly motivated to encourage candidates to opt for the teaching profession because it is not sufficient to raise pay slips alone.



There ought to be the realization that the qualities of the lecturers and teachers we have in our educational system obtain money under duress from students, and there is the need for improvement by stopping the extortion if we do not want a total collapse of the nation's educational system. In essence, teachers must be treated at all levels of our educational system as equals of their counterparts in other professions so that we can improve the standard of education in order to meet the global demand for quality education for sustainable development.

Clearly, it is my belief that experiences from other countries will offer increased insight regarding the importance of teacher education and from whose "best practices" Nigerian educators can learn. Learning from other countries could bring Nigeria a long way towards realizing the significance of teacher education in national development. This study could also help the Ministry of Education in Nigeria as well as those in other developing countries to effectively manage their teacher education programs. This study was undertaken with the belief that professional growth and academic training are two distinctive words and that they are necessary prerequisites for effectiveness in teaching. The kind of professional knowledge teachers acquire through effective teacher education programs and the role of teachers in making this knowledge available to arrive at sound practical judgment is essential to educational development. Thus, this research has both practical and conceptual aims which facilitate a broad understanding of the issues surrounding teachers' effectiveness in connection with their competencies via effective teacher education in Nigeria.

Furthermore, in this circumstance, effective selection processes, administration and strategic planning are essential to help revitalize the decaying teacher education program in Nigeria. It is against this background that this study points our attention towards empowering education planners and policy makers in Nigeria to learn from other functioning teacher education programs around the world. This is because ineffective administration and planning have been identified as factors that hinder educational productivity in Nigeria (Aderounmu & Ehiamentor, 1985; Enaohwo & Eferakeya, 1989; Whawo, 1993). In the same vein, Hannele Niemi's discussion of whether teachers have a future and the conditions required for teachers' growth drew attention to the fact that teacher education and educational administration are important forces for the empowerment of teachers and for changing teachers' status in society (c.f., Niemi, 1996).



It is presumed that the results from this research may be vital for both universities and other teacher education institutions particularly in developing countries. In light of the findings of this study, it is recommended that getting the priorities of teacher education right is crucial. In essence, it would be possible to develop education and enhance learning so that students and employees in the future gain better knowledge and skills for their educational development.

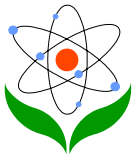
Generalisability of the Study and Limitations

The generalisability of this research work as can be seen from the design of the questionnaire are themes borrowed from questionnaires used by researchers for teacher education studies which were modified to suit this research objective. In a broad context, the work enables the research findings and results to be replicable in other institutions around Africa. Nevertheless, the generalisability of the findings to other parts of Nigeria and Africa is almost impossible to establish at this point. However, in light of the small sample and the number of institutions used, the spread of the respondents' demographic variables such as gender, age, status, qualification and length of service, coupled with the location from which the data was collected and against the backdrop of the similarity of the teacher education programs in Nigeria, in addition to the respondents honesty makes the findings of this study fascinating.

This work supports the findings of other studies which highlight its relevance. In conclusion, this research endeavor helps to explain or describe the factors that hold back successful teacher education and professional growth in Nigeria. However, the uncovered factual details are only interpretations made from empirical findings associated with this particular research project. In order to improve on the generalisability of this study's findings, future studies could increase the sample size as well as take into account the composition of the research subjects. Additional variables that cause problems for teacher education in Nigeria other than the ones dictated in this study could be explored. Finally, this research could be replicated in other settings by incorporating many universities and colleges of education in Nigeria in order to further validate this study's findings.

Implication for Research and Practice

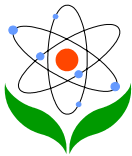
Searches of the Internet and a review of literature showed that this empirical study is unique among the very few that explored the topic of this research in detail in Nigeria



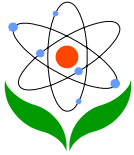
in particular and Africa in general. Those studies were narrow and did not go into extensive details like this study did. Therefore this study provides support for researchers and practitioners. Thus, this study adds to the emerging body of knowledge regarding this domain of study. In addition, the findings of this study suggest that studies involving the effectiveness of teacher education programs in the developing world need not stop at this stage because this investigation is not an end in itself but rather an important predictor for continuing research. There are also implications for government, administrators and policy makers as well as instructors and other entities that are involved with teacher education development in Nigeria in particular and Africa in general.

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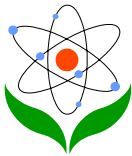
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