

Influence of Teacher Education Network on Research Quality in Nasarawa State University, Keffi- Nigeria

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Abstract

This paper investigated the influence of teacher education network on research quality in Nasarawa State University, Keffi- Nigeria. A growing number of classrooms are using educational networks to communicate and create an online presence for their classrooms. However, many debate the merits of using such technology at all. Although the social networking as one of its key trends in education, schools are still struggling with how to have "sanctioned" spaces and others that are off limits. Teaching is a process of facilitating student learning through proper network by the teacher of the relationship among the students' interest, the content for learning and the methods and materials he or she intends to use in the teaching and learning of the content materials. The Teacher Education Network include higher education faculty teaching in graduate and undergraduate programs, graduate students, administrators, information technology specialists and curriculum specialists teaching and conducting research in teacher preparation and instructional technology. Education is the compilation and product of many and varied resources. Among these, teachers stand out as a key to realizing the high standards that are increasingly emphasized in schools and school systems across the country. A strong professional network is essential to getting through work problems, both large and small. The strongest networks are constant works in progress not groups assemble to handle education crisis. Descriptive survey research design was used. 1,234 respondents were used as target population of the study. A simple random sampling technique was used to sample 150 respondents from Nasarawa State University, Keffi, Nigeria. Questionnaire of likert scale format was used as instrument for data collection. Validity and reliability indices of 0.79 and 0.83 were obtained. Descriptive statistics of mean and standard deviation was used to answer research questions while inferential statistics of Chi-square was used to test formulated hypotheses at 0.05 level of significance. Findings from the study show that teacher education network influence quality research in the school system. The study conclude that education remains a single major factor for national development. The teacher is central in this enterprise, and no tool has been able to replace the teacher yet; this is because no educational system can rise above its teachers.

Keywords: *Teacher education network, Research quality.*

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Background to the Study

The developments or changes of education network continued in phases up to the twenty-first century when the level of educational development allowed the invention of computing machines to solve educational problems. From a global perspective, economic and social developments are increasingly driven by the advancement and application of knowledge. Education in general and higher education in particular, are fundamental to the construction of a knowledge economy and society in all nations (World Bank, 2008). Yet the potential of university education systems in developing countries to fulfill this responsibility is frequently thwarted by long-standing problems of finance, efficiency, equity, quality and governance. Teaching is a process of facilitating student learning through proper management by the teacher of the relationship among the students' interest, the content for learning and the methods and materials he or she intends to use in the teaching and learning of the content materials. It may involve giving an interactive between the teacher and the students. The communication of teacher and students is always occurring when teaching is taking place or process of imparting knowledge to students on skills and personality with the intention that the student will be able to know the information or do something or act in a particular way that is compatible with the instruction. We know the person that gives the instruction may be a teacher or student on the other hand.

Teacher education network needs close contact and diverse interaction with its environment in order to be able to anticipate and influence factors which will bear upon teaching in the future. This is so because being a teacher in future will mean ones' willingness to take active part in influencing social development [growing number of classrooms](#) are using educational networks to communicate and create an online presence for their classrooms. However, many [debate](#) the merits of using such technology at all. Although [the social networking](#) as one of its key trends in education, schools are still [struggling with how to have "sanctioned" spaces and others that are off limits](#). The [Teacher Education Network members include higher education faculty teaching in graduate and undergraduate programs, graduate students, administrators, information technology specialists](#) and curriculum specialists teaching and conducting research in teacher preparation and instructional technology. Education is the compilation and product of many and varied resources. Among these, teachers stand out as a key to realizing the high standards that are increasingly emphasized in schools and school systems across the country. Despite general agreement about the importance of high-quality teachers, researchers, practitioners, policy makers, and the public have been unable to reach a consensus about what specific qualities and characteristics make a good teacher.

The university is a higher institution of learning is charged with the responsibility of creating human resources able to confront a globalized world dominated by the "intensity of knowledge" and international competitiveness. To fulfill this mission, universities must deal with the reality, which frames not only the social setting but also university life itself. A rethinking is therefore required into the kind of development the

university and education in general might bring about. University education may be provided by either the public or private sector (Gonzales, 1997). The first Nigerian university (the University of Ibadan) was established in 1948. Even in the university sector where several academics are known to have showcased the products of their research in the international intellectual scene, the bulk of this research is said to be conceived in terms of publications, career advancement and intellectual prestige of the individual researchers, often with very little social relevance (Musa, 1988). Moreover, many believe that Nigeria's universities are very much left behind in the area of research and innovation. For instance, they need to collaborate their research efforts both domestically and on the international scene, but lack facilities for collaborative research. Admittedly, poor motivation, poor and irregular funding, obsolete research infrastructure, inadequacy of qualified research personnel, general lack of research focus and poor linkage between researchers and the industrial sector are yawning gaps in Nigeria's University education research. These constraints constitute serious limitations to the research capacity and research capability of these institutions.

Education aims at: careful observation of the given conditions to see what are the means available for reaching the end and to discover the hindrances in the way; it suggests the proper order or sequence in the use of the means; it makes choice of alternatives possible, because we can predict the outcome of acting this way or that way and then compare the value of the two courses of actions before passing judgment upon their relative desirability. It is an instrument of change; and it is an instrument of innovation and invention. The creativity, resourcefulness and imaginative abilities of learners are sharpened as they go through various educational programs. The teacher education network has provided highly specialized, custom training for educators to develop the skills that directly impact their ability to bring a spirit of brilliance and creativity to the complex challenges that exist in classrooms, and to sustain their energy as they navigate the educational system. Students have been able to apply these skills swiftly and naturally to:

1. Create learning environments that cultivate student participation and responsibility for their own education, resulting in remarkable gains in achievement.
2. Provide leadership and inspiration in initiatives resulting in effective collaboration with colleagues, higher quality solutions to instructional problems, and successful implementation of school and district-wide projects.

Research funding is critical problem to the ability of teacher education network to conduct research in the first place, and ultimately to the impact to quality research. Most research activities in Nigeria are sponsored by government through government funding agencies like the National Science and Technology Fund (NSTF), the Education Trust Fund (ETF) etc, as well as a number of federal/state ministries, boards and parastatals which directly fund researching institutions or research projects under them. In addition, research projects are occasionally funded by international and philanthropic organisations by way of sponsored research support, endowment funds, foreign aids,

fellowships, donations, etc. The need to improve the quality of teacher education network and research in Nigeria universities is pressing indeed. The Federal Government is working hard to fast-track socio-economic development of Nigeria. However, numerous factors have constituted obstacles in the realization of the goal of teacher education network and research. Researchers should realize that transfer of information from one place to another, does not in itself constitute serious research. It is an inferior type, since it can pass as an incremental knowledge. Objectivity which is essential in research, is external to the mind, real, existing in nature which is in contrast with what is ideal or exists in the mind of the researcher.

Objectives of the Study

The main objective of the study is to investigate the influence of teacher education network on research quality in Nasarawa State University, Keffi- Nigeria. Specifically, the paper sought to examine how teacher education network influence research quality in Nasarawa State University Keffi.

Research Question

Based on the above stated objective, the following research question guided the study:

1. To what extent does teacher education network influence research quality in Nasarawa State University, Keffi?

Hypothesis

In order to facilitate the study, the following hypotheses was formulated and tested at 0.05 level of significance:

- H1. There was no significant influence between teacher education network and students research quality in Nasarawa State University Keffi.

Conceptual Clarification/Theoretical Framework

Teacher Education Network

Teacher education, both pre-and in-service, programs are offered in Nigeria by different teacher education institutions (as provided in the National Policy on Education), and varying degrees of success recorded, various problems still confront the program with far reaching consequences in Nigeria's educational system. A teacher (also called a school teacher or, in some contexts, an educator) is a person who helps others to acquire knowledge, competences or values. Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and directed research. Education frequently takes place under the guidance of educators and also learners may also educate themselves. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. The methodology of teaching is called pedagogy. Formal education is commonly divided formally into such stages as preschool or kindergarten, primary school, secondary school and then college, university, or apprenticeship. The Education Network methodology is the potential tip to the balance of what can be

accomplished in classrooms as a teacher and student, committees, schools and communities. A few proficient teachers can make an enormous, sustained impact on their educational environment. At the same time, they experience less stress and frustration, along with increased satisfaction and fulfillment.

Teacher education network refers to professional education of teachers towards attainment of attitudes, skills and knowledge considered desirable so as to make them efficient and effective in their work, in accordance with the need of a given society at any point in time. It includes training and or education occurring before commencement of service (pre-service) and during service (in-service or on-the-job). Every society requires adequate human and material resources to improve its social organization, preserve the culture, enhance economic development and reform the political structures. Education is often seen as a prerequisite for quality manpower development and creation of wealth, a sure path to success in life and service to humanity. Thus, teachers have important role to play to adequately prepare the young for their roles in the society in order to achieve the set national objectives.

Education is an inevitable tool for sustainable development and a vehicle for advancing the frontier of knowledge (Abdul-Kareem, 2001). In this regard, education is severally conceived and inculcated by people of varying backgrounds, ages, needs and aspirations for sustainable development. The potency of education is more evident in its globalization trends imbued with instrumental values of nurturing productive citizens for sustainable development and democracy. Education has been recognized as a process of imparting knowledge, skills and attitudes to the learners. Teachers' influence is always felt in every aspect of the society. The effectiveness of any educational system depends greatly on the educational attainment of teachers because no system of education can be qualitatively higher than the quality and commitment of its teachers.

The fact remains that teaching and learning depend on teachers for there can be no meaningful socio-economic and political development in any country without teachers. It is on teachers' numbers, quality and devotion that rest the effectiveness of all educational arrangements, development and growth. Even the educational planners may have the best educational policies and designs, the government may vote the largest sum of its revenue to education, but the ultimate realization of any set of aims for education depends on the teacher. It is the teacher who will ultimately be responsible for translating policy into action and principles into practice in their interactions with their students. (Ukeje, 1996) supported this fact when he stated that education unlocks the door to modernization, and added that it is the teachers who hold the key to that door. (Afe, 1992), states that the realization of the educational objectives depends on the quality and quantity of the available teaching manpower. This can be influence by the availability of adequate training and retraining programmes for those about to teach and those already teaching respectively. Hence, the efficiency of teacher training should be the main determining factor in the success or failure of education to meet the country's needs. The

training is the policies and procedures designed to equip prospective teachers with the knowledge, attitudes and skills they require to perform their tasks effectively in the classroom, school and wider community. Education is the most powerful instrument for social and economic progress. It is the greatest power get known to man for his\her own improvements. Teachers are the heart and soul of the educational enterprises, indeed, the life of the school system depends on them.



Figure 1: Teacher with Students in the classroom
Source: Retrieved Online 2018



Figure 2: Teacher education Network
Source: Retrieved Online 2018



Figure 3: Map of Nigeria and Nasarawa State
Source: Retrieved Online 2018

Uses for Teacher Educational Networks

1. Create an environment that cannot be duplicated elsewhere for networking students that will not meet face to face.
2. Teachers retain administrative control (ban users, approve photos and videos, make the site public or private, add gadgets).
3. Students quickly learn to use such sites which give them a way to blog, share photos, share videos, join groups, and comment and rate the work of one another in peer review.
4. Private educational networks can be used to educate students on social networking safety in a classroom setting before they move personally to major platforms like Facebook and Myspace
5. University can create communities of learners that last beyond the span of a course, a grade, or even beyond graduation.

Obstacles to Teacher Educational Networking

1. Most teachers use the word "social" networking which denotes "play" and not classroom professionalism to many educators.
2. Use of "embedded" social networking platforms - some are using Facebook and Myspace as their classroom social networks causing an overlap between a space for friends and a space for classrooms.
3. Some technology specialists state that teachers have not asked for the technology in their classrooms.
4. Perception that social networks are not used by teachers, only by students.

Impacts of Teacher Education Network to Research

1. Provide knowledge and recognition of teaching and educational work at all levels.
2. Provide status, respect and inspiration for the teacher and social educator professions.

3. Influence development and innovation of teacher and social educator education in the countries.
4. Learn about and promote understanding of the history, culture, values and traditions of the member countries, as expressed through teacher and social educator education.
5. Promote opportunities for exchange and/or visits of individual and/or groups of students as part of their programmes of study (inclusive of teaching experience, practical training, curriculum work and research).
6. Promote opportunities for exchange and/or visits of staff members in relation to student education, teaching, school development, curriculum development and research.
7. Promote opportunities within teacher and social educator education programmes and school practice to incorporate comparative and intercultural perspectives on education.
8. Promote opportunities for cross-national and international collaboration in research and development.
9. Provide opportunities for professional staff development.

Challenges Facing Teacher Education in Nigeria

In the work of Ogunyinka, Okeke and Adedoyin (2015) the following are the challenges of teacher education in Nigeria:

Poor Policy Implementation: Poor policy implementation is a challenge to quality delivery of teachers' education. The poor quality delivery is responsible for the abysmal low performance of teachers' graduates from the institutions of higher learning in Nigeria. (Anyakoha, 1994) argued that our policies are written by knowledgeable writers who have foresight and believe strongly in what they write for the future but the problem comes when it comes to translating theory into practice by implementers. However, several factors could be adduced as inhibitors to smooth implementation of educational policies and thereby resulting to poor quality delivery. Such as government underfunding of education and injudicious utilization of available funds by implementation agencies: vice chancellors, rectors, provosts, deans of faculties, heads of department etc. when funds meant to deliver quality education is misappropriated or embezzled, the education which learners receive becomes worthless.

Poor Conditions of Service and Brain Drain Syndrome: In Nigeria, teachers' conditions of service do not hold enough incentives to attract and retain the best brains in Nigerian schools (Osokoya, 2012). As a result of the weakening attraction to the teaching profession, and by extension the resultant dwindling enrolment in the teacher education programs, those who remain in the profession maintain relatively low social status with accompanying psychological problems. Consequently, within the remaining pool, some teachers either seek opportunities in other sectors (within the economy) with better service incentives or even migrate to other countries where teachers' conditions of service are much better, in search of greener pastures. The quality or standard of education in Nigeria has reduced in recent years because of, among other factors, the brain drain

phenomenon, (i.e., the drift of many brilliant, intelligent and more experienced teachers and university lecturers to countries where they were offered better remunerations and conditions of service). This syndrome is, to a large extent, attributable to inadequate incentives, poorly equipped education system in an increasingly hostile working environments, inadequate social recognition, delay in payment (and sometimes denial) of teachers' salaries, among others. The reliance on inexperienced, and in some cases unqualified teachers and lecturers in the various educational fields and institutions in the country definitely affects the quality of students' work, and of graduates who are eventually employed to service the educational manpower needs, as well as the economy. This vicious circle contributes to the lowering status of education in the universities, colleges of education as well as secondary and primary schools (Osokoya, 2012), even as the trend impacts on the economy negatively.

Quality Assurance and Internal Efficiency Issues: The academic and emotional qualities of intending candidates for teacher education are critical for quality assurance and internal efficiency in teaching professions. In Nigerian tertiary schools, a trend has been evolving to the effect that candidates who apply to higher institutions for teacher education are those who have either been denied admission in their choice areas of study, or are basically unqualified for admission into such popular professional courses as medicine, law, engineering, architecture etc. The usual shortage of applicants seeking admission into programs that would prepare them as teachers in universities and colleges is a pointer to why admission and placement in education programs is not as rigorous as it is in other programs earlier named. This is mostly opposed to the international standards for teacher selection. For example, the International Labor Organization (ILO) recommends that teachers should be selected on the basis of moral, intellectual and physical qualities. Also, in more developed climes like the United Kingdom, applicants are compulsorily expected to possess certain intellectual qualities and personal characteristics before they are admitted for training (Lassa, 1998). In contrast, the Nigerian Universities, College of Education and Polytechnics conduct students' admissions based primarily on obtaining the minimum academic requirements while other internationally recognized pre-requisites such as emotional stability, physical fitness or qualities, moral uprightness and communication proficiencies are hardly given considerations.

Insufficient Knowledge and Use of Information Communication Technology (ICT): Another major challenge to teacher education in Nigeria is that of insufficient knowledge and use of ICT in a globalizing world. The knowledge, and use, of computer technology as well as the internet is a necessity for all teachers to guarantee the relevance of the system and its products in the 21st century. Many schools in Nigeria still operate the traditional education system with little or no adaptation to ICT. To benefit from the ubiquity of information and to facilitate communication among professional networks, school teachers need, not only be trained and re-trained in ICTs, but facilities must be provided by government to enable teacher and their students access to these remain uninterrupted, more so that the world is gradually becoming a global village. For our future teachers to be able to operate effectively and efficiently, they must imbibe the new technologies and methodologies of the modern times (Osokoya, 2012).

Non-Professionalization of Teaching: Many teachers in Nigeria have not measured up to the minimum international standard. This is because a large number of untrained and half-baked personnel are still retained in the system, leading to a scenario in which career in teaching is not yet professionalized. Many unqualified teachers are still in the employment of some States Teaching Service Boards, while most higher education lecturers are yet to undergo training in education. Until government makes this training mandatory and pursues the policy vigorously, teaching will continue to be open to anyone and this situation holds the potentials of further eroding professionalism in teaching profession (Osokoya, 2012). Certainly, this has other wider socio-political and economic implications given the fact that education remains a very essential component that produces a healthy and prosperous nation.

What is Research?

Research is a systematic investigation towards increasing the sum of human knowledge. The most important tool often used to understand a problem, delineate issues relating to it and resolving conflicts surrounding it, is research (Umoru, 2010). Osuala (2005) defined research as a process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. He further explained that research is the most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts. Arising from this definition therefore, research in business education is aimed at increasing knowledge in the discipline and providing solutions to problems relating to curriculum, evaluation, students and teachers, the society, all aimed at improving the quality of teaching and learning process. According to Okeke (2004) there is a serious need for professionals to embark on research as a way of finding solutions to numerous problems affecting the education sector. This view was supported by Njoku (2003) who argued that results of research should help business educators solve educational problems.

However, it does appear that researchers in the field of education embark on research only for the sake of it. There is no doubt that researchers in the universities are trained in the art of research investigation so as to understand the general physical relationship of cause and effect and the ability to test specific relations experimentally and systematically. This is important because according to Preece (1998) only systematically trained mind is likely to be aware of the possible significance of any chance observation from which develops an intuitive idea or a hunch. This mental process, he further explained, is called induction and he argues that these inductively formed ideas must be tested systematically according to procedures which are in part general to all disciplines but are also, to some extent, specific to individual subjects. The strict adherence to the scientific procedure in research investigation is unavoidable if the quality of research in business education must be of high standard. Research funding is critical to the ability of universities to conduct research in the first place, and ultimately to the impact to quality research. Most research activities in Nigeria are sponsored by government through government funding agencies like the National Science and Technology Fund (NSTF),

the Education Trust Fund (ETF) etc, as well as a number of federal/state ministries, boards and parastatals which directly fund researching institutions or research projects under them. In addition, research projects are occasionally funded by international and philanthropic organisations by way of sponsored research support, endowment funds, foreign aids, fellowships, donations, etc. Unfortunately, there is virtually no industry involvement in funding academic research in Nigeria (Donwa, 2006). Research in Nigerian Universities are routinely funded through the relevant supervisory bodies namely, the National Universities Commission (NUC) and the National Board for Technical Education (NBTE) respectively. It must be said though; the funding of research in the universities has been generally poor and irregular. However, the federal universities are better funded and more autonomous than the state government owned universities (Clark & Sedgwick, 2004). There are four main ways that research can contribute to programmes of teacher education:

1. The content of such programmes may be informed by research-based knowledge and scholarship, emanating from a range of academic disciplines and epistemological traditions.
2. Research can be used to inform the design and structure of teacher education programmes.
3. Teachers and teacher educators can be equipped to engage with and be discerning consumers of research.
4. Teachers and teacher educators may be equipped to conduct their own research, individually and collectively, to investigate the impact of particular interventions or to explore the positive and negative effects of educational practice.

In Nigeria, the traditional funding method for universities research is formula funding based on inputs – staff size, enrolment etc (Salami & Hauptman, 2006). However, given the expenditure dynamics of universities research against scarce state resources in a dwindling global economy, many countries around the world are now adopting the innovative, performance-based funding mechanism based among others on peer reviewed outputs or outcomes, rather than inputs (Akintoye, 2008; OECD, 2010). Bako (2005) defines research as a systematic search and investigation for increasing the sum of knowledge; and research and development as the search and application of this knowledge for the development of new and improved products, services and industrial processes of capital development. In other words, research is the process of creating new knowledge or new insights on knowledge, or unlocking knowledge (Ibidapoobe, 2010).

Research in the universities is definitely more rooted and more spirited than in the non-university sector and, quite often, borders on basic research, especially in the conventional universities. The specialised universities, notably the universities of technology and agriculture, are supposed to focus more on applied research and technology adaptation, but at present suffer from acute shortage of specialised research facilities and inadequacy of qualified research personnel that could enable them fulfill this expectation. Research in the universities may take the form of:

1. **Individual research:** This is initiated and conducted by an individual researcher or a team of researchers who may seek funding from the University Board of Research or from alternative funding agencies, including international organisations, NGOs and the private sector.
2. **Institutional research:** This is initiated and supervised by the institution or a unit of the institution (faculty, department etc) and usually involves a team of researchers. Funding is internal, except where assistance is obtained from external sources.
3. **Commissioned or contractual research:** This is carried out at the instance of an external body, which may be government or a government organ, the private sector, NGOs etc, which also funds the research. The sponsor has right of ownership of the research results.
4. **Collaborative research:** This is a joint research effort with common objectives or goals and involving the sharing of ideas, methodologies, facilities etc between individual researchers or research teams, from same or different institutions, organisations, countries or regions of the world.
5. **Student research:** This is an undergraduate or postgraduate research project undertaken by a student, supervised by the student's department, and the results of which are reported in student's thesis or dissertation. Student research is usually jointly funded between the student himself (or his sponsor) and his department. Research in academic is a process of collecting, analyzing and interpreting information to answer questions or solve a problem. But to qualify as good research, the process must have certain characteristics and properties: it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical. The main characteristics for good quality research is listed below:
 1. It is based on the work of others.
 2. It can be replicated and doable.
 3. It is generalisable to other settings.
 4. It is based on some logical rationale and tied to theory. In a way that it has the potential to suggest directions for future research.
 5. It generates new questions or is cyclical in nature.
 6. It is incremental.
 7. It addresses directly or indirectly some real problem in the world.
 8. It clearly states the variables or constructs to be examined.
 9. Valid and verifiable such that whatever you conclude on the basis of your findings is correct and can be verified by you and others.
 10. The researcher is sincerely interested and/or invested in this research.

Research Quality

Quality research is useful as it influences development in the field of education since education is central to creating and sustaining any modern society. A useful research, in purely academic terms, according to Preece (1998) means that which is carried out within the system of knowledge of a particular subject or discipline and contributes to or

modifies or even casts doubt on in fact tests – that system. The use of qualitative and quantitative research in education is necessary and complimentary in improving the quality of research results. Qualitative method is useful in providing material for hypothesis, and defining complex concepts rigorously and realistically. On the other hand, quantitative research in business education is valuable for hypothesis testing, logical argument, generalization and objectivity. If the researcher is competent in all aspects of research handling, then it is expected that quality research would result which, in turn, will transform the society and bring about improved standard in the education sector generally and in business education discipline in particular.

Quality has been at the top of most programs and has been one of the basic means of competition. Even today, quality is still a key concept in the future success of national economies. For the survival of mankind, quality must pervade all our activities, whether in business or in service. However, notwithstanding the importance attached to the concept of quality, it is still a concept that is not easily defined. Today, quality is regarded as an essentially contested issue among competing voices and is discoursed by front-line academics and managers and is viewed differently. This leads to the ideas by some scholars (Anyamele, 2004) that quality has suffered over the years by being used to describe attributes such as beauty, goodness, expensiveness, freshness and, above all, luxury. Since it is not possible to manage something that is so imprecise and means so many things, it makes quality appear a very difficult concept to understand. Quality, then, is a slippery concept because it has such a variety of meanings and the word implies different things to different people (Munro-Faure & Munro-Faure, 1992). The significance of the term “quality” in educational context, including its political importance and increased substantially is however given a normative interpretation. Research quality means “degree of excellence”, two aspects are encompassed: that of judgments of worth and that of position on an implied scale of good and bad. To judge the quality of a research, for instance as “poor”, “mediocre”, or “excellence” means both applying, whether roughly or precisely, a certain notion of merit, and identifying again more or less appropriately where that school is positioned relative to other schools (OECD, 1989).

Nevertheless, the concept of “quality” in education conjures up many metaphors including a functionalist one. A functionalist metaphor of quality in education refers to the curriculum, content, methods of teaching and assessment and evaluation policies and procedures. As a result, quality in education debate seems to focus on this functionalist or instrumentalist definition of education. By whatever means, if we accept that no single definition is possible in education unlike in the business world, it follows that the best approach to view quality is to look for observable characteristics of educational programs which are valued. However, Zajda (1995) citing Berquist and Armstrong offered seven observable criteria for research quality, they include:

- a. **Attractive:** It does something that brings people to it.
- b. **Beneficial:** It does something that is helpful to the individuals and the community involved in it.

- c. **Congruent:** It does what it says it will do.
- d. **Distinctive:** It is responsive to the unique characteristics of the institution and its people and this is unlike most other programs.
- e. **Effective:** It does what it does very well and can demonstrate its effectiveness to others.
- f. **Functional:** It provides learners with attributes needed to perform successfully in today's society.
- g. **Growth-producing:** It enhances growth in a number of important directions of learning.

Diffusion Theory by Rogers' (2003)

The roots of these ubiquitous innovator and early adopter concepts lie in diffusion theory, of which Everett Rogers is considered to be the founding father. The central assumption of the theory is that the penetration or diffusion of technology innovations follows a normal bell-shaped distribution pattern. In this diffusion pattern, the theory distinguishes between five adopter segments, for which the theory holds to fixed assumptions on their size, profiles and adoption determinants. According to Rogers (2003), innovativeness or the timing of one's adoption decision is assumed to be determined by the subjective perception of a set of product features (relative advantage, complexity, compatibility, trialability and observability). Innovators and early adopters, for example, are assumed to have a higher perception of relative advantage than the majority segments and a lower complexity perception. According to diffusionism, technological innovation and social progress in a given society are mainly determined by technology features. Rogers' diffusion theory remains a central basis for much research effort in ICT innovation and adoption as its terminology (innovators, early adopters, laggards etc.) and assumptions (segment sizes, segment profiles, adoption determinants) still provide a popular framework in media and communication studies as well as in the domains of learning. However, as the theory is a starting point for many works within different disciplines, a scattered use of the approach is observed.

Rogers theory explain and being relevance to this study using the four main elements in the diffusion of new ideas. First, to an innovation, since ICT is an innovation therefore there is a need for an individual (social system) to adopt it and the early the adoption, acceptance, & use (time) the faster the growth and development (communication channel) that society can be. Also state that an individual's technology adoption behavior is determined by his or her perceptions regarding the relative advantage, compatibility, complexity, trialability and observability of the innovation, as well as social norms (Rogers, 2003). The decades old assumptions of diffusion theory are still a fundament for a diversity of research is a severely changing ICT environment – albeit in a scattered and increasingly contested way. Within the context of this changing environment, this paper aims to assess the strength or value of the integral theory that has been developed in the 1960s but whose assumptions on diffusion patterns, determinants, and segment sizes and profiles are still widely used for ICT adoption studies. Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. Diffusion is a special type of communication concerned with the

spread of messages that are perceived as new ideas. An innovation, simply put, is “an idea perceived as new by the individual.” An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption.

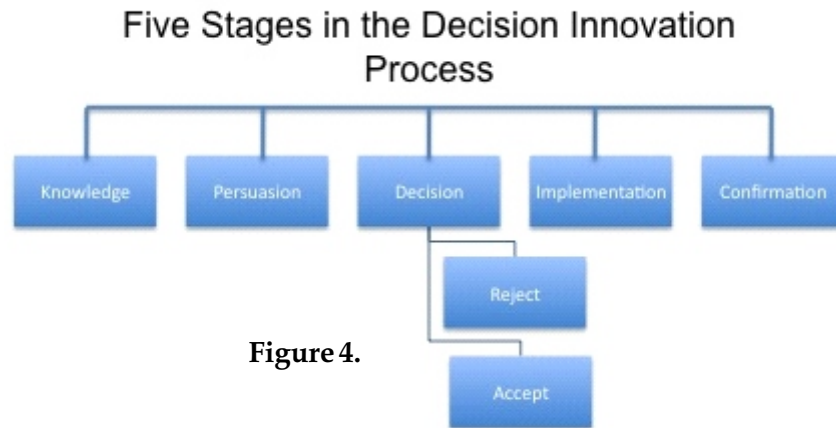


Figure 4.

Constructivist Theory (Vygostky, 1978)

Constructivism is a theory of knowledge which argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. During infancy, it is an interaction between their experiences and their reflexes or behaviour-patterns. Constructivists claim that teachers cannot transfer intact knowledge from their heads to the learners rather that knowledge is constructed by the learner. According to Vygostky effective learning occurs, only when learners develops and accommodates meaning in a context that builds on their prior knowledge. According to the constructivist theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Through the processes of accommodation and assimilation, individuals construct new knowledge from their experiences. When individuals assimilate, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding; for example, they may not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how teaching, learning and research happens, regardless of whether teachers and learners are using their experiences to understand a lecture or following the instructions for gaining the understanding. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing. The above theory is relevant as an anchorage theory to this

study. The constructivist holds that learners make meaning of what is taught in the classroom when they are given the opportunity to participate actively in the learning process and teachers have different characteristics irrespective of their background. While the behaviorism focuses on the external behavior of the teachers and learner cognitive, on the other and emphasizes on the internal mental structures of the same thus lending itself to abstract information processing rather than actual behaviors of students. Cognitive theorists acknowledge the importance of reinforcement; however, they underscore its role in providing feedback about the correctness of responses over its role as a motivator. This theory goes in line with this research work regards to education network and students' quality research, that every student possesses his/her quality and needed to be applied during research process in order to improve their academic achievement. The research qualities include: validity, reliability, objectivity, usability etc. When all these attributes applied in the classroom, teaching-learning will be effective for the development of teacher education network.

Methodology

Descriptive survey research design was used. 334 respondents were used as target population of the study. A simple random sampling technique was used to sample 150 respondents from Nasarawa State University, Keffi, Nigeria. Questionnaire of likert scale format was adopted in the work of Titus(2013)and was used as instrument for data collection. Validity and reliability indices of 0.79 and 0.83 were obtained. Descriptive statistics of mean and standard deviation was used to answer research questions while inferential statistics of Chi-square was used to test formulated hypotheses at 0.05 level of significance.

Table 1: Results

S/N	Statement	Means	Standard Deviations
1	Lack of teacher education Network	3.14	0.83
2	Poor construction of questionnaire items	2.65	0.34
	Absence of true experimental studies	3.51	0.54
3	Poor quality of information used.	3.14	1.23
4	Recycling of old research topics	3.27	0.54
5	Poor knowledge of citation	2.86	0.64
6	Poor research selection techniques	3.7	0.43
7	Difficulty in obtaining current literature	3.12	0.23
8	Inadequate skills to use new technologies	3.51	0.53
9	Failure of research to contribute to knowledge.	3.18	0.52
10	Poor clarification of relationships between variables	3.21	0.23
11	Poor knowledge of referencing	2.78	0.42
12	Wrong presumptions about validity and reliability of instruments	2.64	0.13
13	Poor procedure in attitude measurement	2.61	0.52
14	Poor interpretation of results.	3.13	0.16
15	Non-availability of congruent and sufficient information.	3.12	0.11
16	Poor quality of information used	2.65	0.26
17	Poor sampling procedure	3.15	0.62
19	Lack of access to quality journals	2.62	0.85
20	Recommendations not emanating from the findings	3.14	0.43

Cut-off point of 2.50

The above table 1 presented data on the influence of teacher education network on research quality among Nasarawa State University, Keffi. It revealed that all the items have mean values ranging from item 1 to 20. This showed that all the means were above the cut-off point of 2.50 indicating that the respondents agreed that the items have the potential to undermine that teacher education network influence quality of research in Nasarawa State University, Keffi. It noted with interest that the means are extremely very high indicating the danger inherent in the research process as now obtained in the discipline with the standard deviation scores of 0.13, 0.11 and 0.9 showed low variability of the respondents' views on all the items indicating that there were little changes.

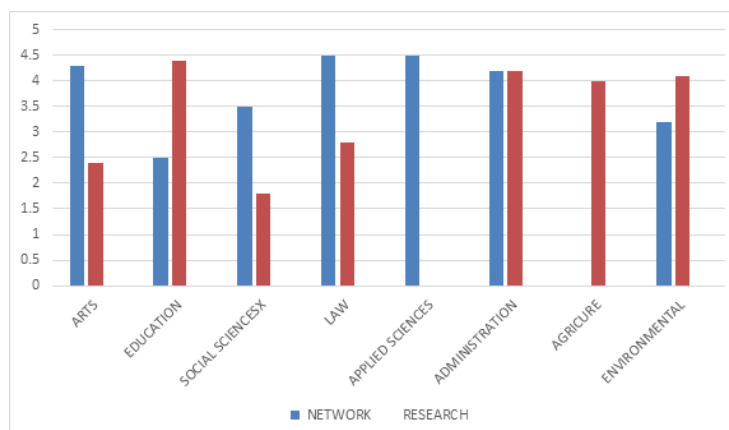


Figure 5: Bar chart shows responses of students' in each faculty

Testing of the Hypothesis

Hypothesis 1: There was no significant influence between teacher education network and research quality in Nasarawa State University Keffi.

Table 2: Chi-square statistics for significance influence between teacher education network and research quality in Nasarawa state University Keffi

Variables'	No of Respondents	Df	χ^2_{cal}	χ^2_{tab}	Decision
Network	48	148	2.62	1.98	H_0 Accepted
Research	102				

Table 2 above showed the χ^2 statistics results for significant influence between teacher education network and research quality in Nasarawa state University Keffi. It is evident that at 0.05 level of significance and degree of freedom of 148, the χ^2 value of 1.62 for significance influence between teacher education network research quality in Nasarawa state University Keffi which is greater than the critical value of 1.98 was obtained. Therefore, since the calculated value of χ^2 is greater than the critical value, the null hypothesis was rejected. Hence, there was significant influence between teacher education network and students research quality in Nasarawa state University Keffi Nigeria.

Discussion of Findings

Findings from the study show that, there was significant influence between teacher education network and research quality in Nasarawa state University Keffi. This agreed with the work of Oyaziwo(2011) who recognized the fact that low access to university education in Nigeria could be the result of the following: problem of carrying capacity; infrastructural/ facilities challenge; inadequate public financing; economic constraints; labor market failure (low absorptive capacity of the economy; and problem of curriculum and curriculum delivery. Towards achieving greater access to university education in

Nigeria, this paper recommended the following: curbing financial waste in the Nigerian University System (applying the policy of consolidation to its letter); downsizing the number of support staff in Nigerian University System; retraining of Nigerian universities' academic staff to embrace ICT/ e – learning; mandating all universities in Nigeria to establish distance learning centres to provide more opportunities for all to have access to university education; and revision of education trust fund support for the production (books and journals in Nigerian tertiary institutions to be directed towards production) of online materials for distance learning centers that would serve the greater populace desiring university education. The findings also go inline with Okebukola (2008) who reported that the depressed quality of education in Nigeria has been explained in part by the inadequate funding of the system. All stakeholders in education including parents, students, teachers, development partners, he continued, have listed funding inadequacy as a problem; all communiqués and resolutions of major conferences and summits on the state of education in Nigeria have funding as an issue that should be addressed in order to get education on good track. According to him, funding is far from the pace required for a quantum leap in improving quality. Rai and Bhattacharya (2011) found that the quality of an institution's environment for digital information storage and retrieval has, for business education research, become more important than the conventional library and need to be available and used adequately. Poor funding of business education research was found to be major obstacle towards quality research in the discipline in Nigeria. The study also found that researches are recycled and this was supported by Jimoh-Kadiri (2011) who reported that as a result of “publish or perish syndrome, some lecturers copy other researchers' work without even acknowledging them. Regarding the absence of new technologies, the study found that this affects the outcome of research endeavor negatively as effective research is impossible without the use of new technologies. In this regard, (Bingimlas (2009) reported that the use of new technologies is no doubt essential as it provides opportunities for students to learn to operate in an information age

Conclusion

Education remains a single major factor for national development. The teacher is central in this enterprise, and no tool has been able to replace the teacher yet; this is because no educational system can rise above its teachers. The teacher holds the remedy to the many problems ravaging Nigeria. The central purpose of teacher education network is to provide teachers and with the wide intellectual and professional background for their assignment. Research among teachers and students is a process of collecting, analyzing and interpreting information to answer questions or solve a problem. But to qualify as good research, the process must have certain characteristics and properties: it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical. Quality teachers are the teachers who inspire students to compete against themselves, to take on tasks that seem to exceed their grasp, to discover and develop their real mettle as thinkers. At the same time, the very best teachers also seem to be the ones who never stop learning themselves; they are the folks who never quit reading new books, listening to new voices, or discussing new ideas, and whose quest for

understanding is never finished. The best teachers' education network are lifelong students, people who still know how little they really understand about life and how much they have left to learn about all the important questions. The study reviewed the factors undermining the quality of research in Nigeria tertiary institutions. It was very clearly revealed that there was a serious need for educational networking among of student to continue to embark on research as a way of finding solutions to numerous problems facing the society generally and the education sector in particular. Quality research results are crucial if the required educational goals must be achieved by any country.

Recommendations

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

1. Educational researchers should ensure that only quality information is used in the research process so that research results would significantly influence changes in the directions of education network.
2. Educational researchers should be provided with capacity building needed for effectiveness in the research process and competence in handling new technologies which are useful in research for the quality of educational networking

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