

**ROLE OF EDUCATIONAL TECHNOLOGY IN TEACHER EDUCATION
IN NIGERIA. A CASE STUDY OF SHEHU SHAGARI COLLEGE OF
EDUCATION SOKOTO**

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OCTOBER, 2015

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**A PROJECT REPORT BEING SUBMITTED TO THE DEPARTMENT
OF EDUCATION IN PARTIAL FULFILMENT OF THE REQUIRMENT
FOR THE DEGREE OF BCHHELOR OF ARTS EDUCATION IN THE
USMANU DANFODIYO UNIVERSITY SOKOTO**

OCTOBER, 2015

APPROVAL PAGE

This study had been carefully read and recommended for acceptance having satisfied as degree of Bachelor of Arts Education (B.A.Ed) Degree in the Department of Education and Extension service, Faculty of Education and Extension Services at Usmanu Danfodiyo University Sokoto.

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DEDICATION

This project is dedicated to Almighty Allah (S.W.T) for sparing our lives till today (Alhamdulillah) and to our parents who contributes to our success right from the beginning of our lives. May Almighty Allah makes Jannatul firdaus to be their final destination, Ameen.

ACKNOWLEDGEMENTS

We wish to express our profound gratitude to Almighty Allah (SAW) for giving us the condition of health and opportunity to have fulfilled our aim and objective of conducting the research project to the Department of Education and Extension Services.

We immeasurably thanks our project supervisor Prof. Muhammad Garba Mahuta, for his intellectual guidance, for also his endurance in supervising this work tirelessly at the expense of his private and official time. His constructive criticisms and valuable suggestion have helped in giving this work its present shape.

We also have to express our gratitude to all those who in one way or the other have contributed in cash or in kind which adequately help us in putting this project work together. Which without their assistance this work would not have been produced. We regret our inability to mention all names.

Our special thanks also goes to the lecturers and all other staff of the Department of Education and Extension services for their role in teaching and giving us the moral respect throughout the programmes at the University.

We like-wise thanks all contacted individuals at the Shehu Shagari college of Education Sokoto who responded not in small

measure to our research enquiries and gave us cooperation in fulfilling the research questionnaires issued to them with positive responses.

May the Almighty Allah bless all abundantly and put this project work in posterity, disseminating the knowledge to humanity; which includes the scholars of learning.

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ABSTRACT

The title of the study is “Role of Educational Technology in Teacher Education in Nigeria”. The population of the study happened to be all the professional diploma in education lecturers and students in Shehu Shagari College of Education Sokoto. The hypothesis tested during the study includes, there is no significant role of educational technology in teacher education in Nigeria. The instrument for this study is questionnaire and oral interview, the finding shows a significant role.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

In recent times our educational needs have grown beyond the competence of our teachers know how. Since no education system may rise above the quality of its teachers and the training facilities, teacher education and the training facilities are being continuously given major emphasis in all educational planning and development in Nigeria.

In these crucial endeavour teachers need help by being provided with instructional materials, which will enhance effective teaching and learning at all levels of education i.e primary, secondary, post-secondary, and tertiary - from the local, state and the federal governments. Educational technology can be considered either as a designed science or as a collection of difference research interested in addressing fundamental issues, of learning, teaching and social organizations.

The importance attached to educational technology include, improved open access to education, including access to full degree programmes, it also develops once designs proper and accurate curriculum for the attainment of specific goals, it also analyses and evaluate the teaching learning processes.

The important functions of the educational technology are described as follows:

- i. It identified educational goals and objectives of the community.
- ii. It develops and designs proper and accurate curriculum for the attainment of specific goals.
- iii. It analysis and evaluates the teaching learning process.
- iv. It develops and organizes suitable instructional materials for teaching learning process.
- v. Better integration for non-full time students, particularly in continuing education.
- vi. Improved interactions between students and instructors.
(Sharma & Sharma, 2006.)

Technology in teacher education should be viewed as more than tools, resources, and procedures, it should be explored in an attempt to understand it's live earnings. Ideals of instrument internationality and technology relations may be one vehicle for helping us do that. By recognizing the "Internationality" of technology and examining the "relation" it has with preservice teachers, we may add debth to our understanding of technology and more toward a more thorough analysis of its existential impact, extending our ability to be more critical of its use in educational setting. It is against this background

that this research wants to explore on the role of educational technology in teachers education.

1.2 Statement of the Problem

Educational technology has the potentialities to solve some educational problems, which include rote learning, large-scale examination malpractices, high rate of school dropouts, indiscipline, learning difficulty, slow learning, negative learning interest, perceived abstractness of some subjects, and mass failure among others. It could at least reduce them to the barest minimum. With the aid of Educational technology, teaching functions are enriched by an array of teaching machines that are under the control of the teacher; coupled with a systematic or process approach to educational technology, which is based on clearly stated objective.

The problem now is that, the service educational technology offer to teacher education programme are not clearly defined and inadequate coupled with the students inefficient use of the services rendered in addition to the misunderstanding of the relationship between the educational technology as a course of study and the educational technology center in the SSCOE.

1.3 Research Questions

The following are the research questions for this study:

- a. What services do educational technology offer to teacher education programme in Shehu Shagari College of Education, Sokoto (SSCOE)?
- b. To what extent do students of NCE programme in SSCOE use the services of educational technology?
- c. Does relationship between educational technology as a course and educational technology centre abound for effective teaching?

1.4 Objectives of the Study

This research study intends to achieve the following objectives:

- a. To find out the services educational technology offer to teacher education in SSCOE.
- b. To find out do students of N.C.E programmes in SSCOE use the services of educational technology.
- c. To find out if there is any relationship between educational technology as a course and effective technology centre abound for effective teaching.

1.5 Significance of the Study

The study of the (services) i.e function, operation, control and problems' confronting an institutions owned Technology will enable student teacher know the role of the Educational Technology as well as the problems confronting the Educational Technology, Especially that the primary aim of Educational Technology is to teach the student

teacher on how to identify teaching skills that can enhance their effectiveness, Moreover, teach the student teacher on how to gather instructional materials for various aspects during their teaching practice and in future.

To show that Educational Technology is useful for Model Teaching, Teachers (students) in training, Sandwich Teacher education for training in-service teachers for professional improvement; and that there are also many machines that could be used as instructional materials including computer and video coverage (films recording). To show that Educational Technology plays a complementary role by providing opportunity for viewing and review of educational programmes such as Lectures, Seminars, Workshops and conferences.

- It develops and organizes suitable instruction materials for teaching leaning process.
- It helps in selecting and developing appropriate instructional strategies in order to achieve fruitful results.
- It also helps in utilizing hardware media effectively and successfully.
- It also provides essential feedback and controls through evaluation.

It prepares teachers in the use of new teaching technology

1.6 Scope and the Delimitation

The study has been limited to Shehu Shagari College of Education Sokoto Educational Technology Centre's services, covering the Educational Technology Centre operation from January 2006 to August, 2007 for student enrolled in the NCE programme.

Educational technology thus refers to the use of both physical hardware and educational theories. It encompasses several domain, including learning theory, computer-based training, online learning, and where mobile technologies are use M-learning.

However, the study is to find out the following:

- Organisational history and structure of educational technology centre in the Shehu Shagari College of Education, Sokoto.
- The development of educational technology in Shehu Shagari College of Education, Sokoto.
- The nature of the professional Diploma in Education programme as a pre-requisite for practice of teaching in Nigeria.

1.7 Operational Definition of Terms

Education

Education is the way the individual acquires the physical, moral and social capacities demanded of him by the group into which he is born and within which he must function (Swift, 1969).

Technology

Technology is the application of scientific knowledge to solve the practical problems of man environment. It is a systematic integral process for separation and analysing problems, devising, implementing; managing; controlling and evaluating solutions, to the problems.

Teacher Education

Teacher education is that aspect of education, which deals with the acquisition of practical and applied skills in the teaching profession.

Educational Technology

Educational Technology is complex integrated process involving people, procedure, ideas, device and organization for analysing problems and designing, implementing, evaluating and managing solution to those problems involved in all aspects of human learning.

Educational technology centre

A place, space, or area within an educational environment used for the storage, supply, design, and development of resources. Whether data, devices, messages, techniques, people, materials hardware and software. The resources are organised for lending and use.

CHAPTER TWO

2.1 Introduction

In this chapter, a review was made to highlight on important issues, based on the following breakdowns i.e conceptual framework, theoretical framework, essential components of quality technology plan, development of educational technology in the world, problems of educational technology in Nigeria, review of related empirical studies aboved as the summary and uniqueness of the study.

2.2 Conceptual Framework

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes. Technology in education is a tool, a way for fact-based learning and allows students to do a lot of the research using the internet and various tools. Technology can be used to enhance critical thinking and critical literacy skills, evaluating the legitimacy and accuracy of online content is the central part of 21st century education. It is important for young people to understand the morals and ethics of using this online content. Therefore importance attached to educational technology includes:

- Effective utilization of hardware and software.

- Developed teaching learning materials as per needs.
- Analyse process of teaching.
- Improves overall skills.

Meaning of Educational Technology

- i. Richey defined educational technology as “study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological process and resources.”
- ii. The association for educational communication and technology (AECT, 2008) denoted evaluation of processes and resources for learning. As such, educational technology refers to all valid and reliable applied education science, such as equipment, as well as processes and procedures, that are derived from scientific research and in a given context may refer to theoretical, algorithmic or heuristic process; it does not necessarily imply physical technology.
- iii. Educational technology is the study and ethical practice of facilitating and improving performance by creating, using and in an appropriate technological processes.
- iv. The term educational technology is often used interchangeable with the instructional technology. However, there is significant different between these two terms. Educational technology is broad

subject than instructional technology. Instructional technology is the subsection of educational technology. Seels and Richey (1994) describe the term educational technology is broader than instructional technology because educational refers to all aspect of educated while the term instructional is unlimited to teaching and learning process. Although the term instructional is limited to 'teaching and learning problems. Although the term instructional technology is often used identical with educational technology, it presents certain requirements that are not found in meanings of educational technology (Ventatiah, 1996).

Educational technology is broad subject and it is impossible to cover it as single teaching technology, behavioural technology, and instruction design or management technology (Sharma and Sharm, 2006).

Instructional technology is "the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning "(Seels and Richey, 1994) instructional technology is "the application of sociological, psychological and scientific rules, principles and knowledge in the instructional process in order to attain learning objectives. It is the system and network devices, instruments, methods and techniques used to achieve certain defined set of learning objectives "(Sharma and Sharma, 2006).

Teaching technology is a unification of academic system which is designed to enhance the effective learning objectives “(Sharma and Sharma 2006). Teaching technology is a unification of academic systems which is design to enhance the effective design of teaching. Learning process to solve the problems which are faced during teaching and learning process and to improve the quality and retention of the information which are presented (Usman, 2002). Educational activities are those activities which are design to bring about desirable changes, in the behaviour of the students, the psychology deals with all type of human behaviour. Therefore, behavioural technology is broader than educational technology. It covers many fields commerce, industry, defense, administration, communication, motivation, health, training education, teaching and instruction. These fields need specific type of behaviours B.F Skinner called the term behavioural technology as “Technology and teaching” (Sharma and Shama, 2006) instructional design as “the systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources and assessments”

To ensure the development of technology skills of students there are three seminar projects which are realized as group work (Denton 1995). First one is concerning statistics. In autumn first year students of technology-oriented primary teacher education must be

able to make a kit for building a meccano bridge model with pupils. Students have no so much knowledge of educational sciences and for that reason they have to concentrate to gather the information of learning process of pupils. After wards this written information will be analyzed according to the theories of educational science and technology education.

Significance of Educational Technology

1. Improved open access to education, including access to full degree programs.
2. Better integration for non-full time student, particularly in continuing education.
3. Improved interactions between students and instruction.
4. Provision of tools to enable students to independently solve problems.
5. Acquisition of technological skills through practice with tools and computers.
6. No age-based restrictions on difficulty level i.e students can go at their own pace.
7. Defray travel costs.

Approaches of Educational Technology

There are two approaches to educational technology:

1. Software and hardware approach
2. System approach

Software and Hardware

The terms software and hardware are used as both nouns and adjectives for example, you can say: The problem lies in the software. Meaning that there is a problem with the program or data, not with the computer itself you can also say. It's a software problem.

This distinction between software and hardware is sometimes confusing because they are so integrally linked. Clearly, when you purchased a program, you are buying software. But to buy the software, you need to buy the disk (hardware) on which the software is recorded.

System approach

The step by step programmed learning approach it also known by other names such as step by step plan system analysis, systematic approach, system technology. When emphasis moved from tools technology to system approach or system technology, this change became known as educational technology. Educational technology therefore is the process whereby we first study or examine the situation and do the following:

1. Identify the educational problem to be solved or the educational activity to be undertaken;
2. State the objectives to be achieved in solving the problems or undertaking the educational activities.
3. Indicate the conditions necessary for the achievement of the objectives.
4. Map out appropriate methods and material resources to be used in order to achieve the objectives; design the way of knowing whether or not the objective are achieved.
5. Determining whether the objectives have been achieved. The system or way of knowing about the achievement of objectives or success or failure of the activity undertaken is known as evaluation. The information we gather through evaluation is the feedback.
6. Where the objectives are not achieved or the educational activity not successfully carried out, we examine stage i-v above, locate the problem, make necessary changes and tackle the problem again until the objectives are achieved or the educational activity is successfully completed.

With this stresses or demands, educational technology, is defined as the systematic analysis of educational problem or activities, which results in the identification of objectives, designing of resources and methods and the integration and evaluation of these for the

achievement of objectives or better results. Professional organizations and educational technology. For example the British National Council for educational technology sees it as the process of applying available knowledge in a systematic way to problems in education and training. Ingle saw educational technology as an integrated and systematic way of designing, planning, implementing and evaluating the total process of teaching and learning in terms of specific objectives research and information on human learning and the process of communication.

2.3 Theoretical Frame Work

Educational technology is the effective use of technological tools in learning. As a concept, it concern an array of tools, such as media, machines and networking hardware, as well as considering theoretical perspectives for their effective application.

Educational technology is not restricted to high technology. Nonetheless, electronic educational technology has become an important part of society today. Modern educational technology includes (and is broadly synonymous with) e-learning, instructional technology, information and communication technology (ICT), Editech, learning technology, multimedia learning, technology-enhanced learning (TEL), computer based instruction (CBI), computer managed instruction, computer based training (CBT), computer assisted instruction or computer aided instruction (CAI) internet based training

(WBT) online education, virtual education, personal learning environment (VLE) (which are also called learned platforms), M-learning and digital educational. These levels have been variously used and understood, and conflate to the broad domain educational technology and e-learning. These alternative descriptive term are all more restrictive than 'educational technology' in that they individually emphasize a particular digitization approach, component or delivery method. For example, m-learning emphasizes mobility, but is otherwise indistinguishable in principles from educational technology.

Theoretical perspective and scientific testing may influence instructional design the application of these theories of human behaviour to educational technology draws input from instructional theory, learning theory educational psychology, performance technology.

Educational technology is an inclusive term for the tools that technologically or electronically support learning and teaching. Educational technology, however, modern electronic educational technology has become an important part of society today. Everyone of these numerous term has had its advocates, who point up particularly potential distinctions. In practice as technology has advanced, the particular "Narrowly defined" aspect that was initially emphasized has blended into the general field of educational technology and e-learning.

Bernard Luskin, and educational technology pioneer, advocated that the “e” of e-learning should be interpreted to mean “Exciting” energetic, enthusiastic, emotional, extended, excellent and educational.”

2.4 The Development of Educational Technology in the World

The historical foundations of devising means to help people in ways that are easier, faster, surer, or less expensive than previous means can be traced back to the emergence of very early tools, such as painting on cave walls. Various types of abacus have been used. Writing slates and blackboards have been used for at least a millennium. From their introduction, books and pamphlets have held a prominent role in education. From the early twentieth century, duplicating machines such as the mimeograph and Gestetner stencil devices were used to produce short copy runs (typically 10-50 copies) for classroom or home use. The use of media for instructional purposes is generally traced back to the first decade of the 20th century with the introduction of educational films (1900s) and Sidney Pressey's mechanical teaching machines (1920s). The first all multiple choice, large scale assessment was the Army Alpha, used to assess the intelligence and more specifically the aptitudes of World War I military recruits. Further large-scale use of technologies was employed in training soldiers during and after World War II using films and other

mediated materials, such as overhead projectors. The concept of hypertext is traced to Bush's description of memex in 1945.

Slide projectors came into widespread use during the 1950s and were widely used in educational institutional settings. Cuisenaire rods were devised in the 1920s and saw widespread use from the late 1950s.

In 1960, the University of Illinois initiated a classroom system based in linked computer terminals where students could access informational resources on a particular course while listening to the lectures that were recorded via some form of remotely linked device like a television or audio device.

In the early 1960s, Stanford University psychology professors Cuisenaire Rods, Patrick Suppes and Richard C. Atkinson experimented with using computers to teach maths and reading to young children in elementary schools in East Palo Alto, California. Stanford's Education Program for Gifted Youth is descended from those early experiments. In 1963, Bernard Luskin installed the first computer in a community college for instruction. Working with Stanford and others he helped develop computer-assisted instruction. Working with the Rand Corporation, Luskin's landmark UCLA dissertation in 1970 analyzed obstacles to computer-assisted instruction.

In 1971, Ivan Illich published a hugely influential book called, *Deschooling Society*, in which he envisioned "learning webs" as a model for people to network the learning they needed. The 1970s and 1980s saw notable contributions in computer-based learning by Murray Turoff and Starr Roxanne Hiltz at the New Jersey Institute of Technology as well as developments at the University of Guelph in Canada. In 1976, Bernard Luskin launched Coastline Community College as a "college without walls" using television station KOCE-TV as a vehicle. In the UK the Council for Educational Technology supported the use of educational technology, in particular administering the government's National Development Programme in Computer Aided Learning (1973-77) and the Microelectronics Education Programme (1980-86).

2.5 Essential Components of Quality Technology Plan

The main purpose of educational technology is the achievement of educational objectives set by leaders in educational matters as well as by society itself. In order to attain this purpose, educational objectives, curriculum content, resources for learning and the evaluation and modification of the learning process are harmonized with a view to improving effectiveness. Educational technology is concerned with the whole process of gaining knowledge. The process involves the learners, curriculum content, the teacher, methods, resources materials as well as other educating agents. Educational

technology also stresses new developments in teaching and learning and is concerned with the fullest use of central services units (educational resources centres) the definition purpose and concerns of educational technology is not just teaching material as many people think. The following elements make up educational technology:

- a. Course development (evolving or expanding the content of a course).
- b. Teaching course unit or lesson
- c. Teaching methods
- d. Design of teaching or instructional materials.

2.6 Problems Militating Against Effective Practice of Educational Technology

Like other innovations, the practice of educational technology is faced with problems both in the developed and in the developing countries. One of such problems borders on the misunderstanding of the concept itself. Many people particularly in the developing countries have a narrow idea about the field and this affect the practice greatly. They see it only in terms of teaching aid and or the use of mechanical gadgets like Projectors, Radio, Film, Television, Computer etc. this makes educational technology to look as if it is product oriented per-se whereas the field is process-production oriented with great emphasis on the process aspect.

Ironically; however, most of our primary and secondary schools in Nigeria are hardly properly equipped with Audio - visual materials (which most people erroneously equate with educational technology). Even where some schools (particularly the private ones) are:

(ii) Reduction of teacher's workload. The present situation were a teacher especially at the secondary school level teaches minimum of five period per day .does not give room for creativity and practice of educational technology.

(iii) Regular inspection of school to find out the extent to which the concept of educational technology is understood and applied by teachers.

Adequate instructional media materials should be supplied to all schools. Building of a standard (i.e. adequate staffed and equipped learning resources centre in each local government area by each state government, which will cater for all the institutions in each state and each local government area. If these recommendations are implemented, it is hoped that most of the problem facing our educational technology will be solved or at least be reduced to the bearable minimum.

2.7 Review of the Related Empirical Study

The Objectives of Teacher Education Programme

1. Ensure that reach faculty member in as convenient to a computer and appropriate software, whether on their dest, or in a faculty use area, the convenient and relatively private use of a computer and related educational technologies. Is an important encouragement to faculty members for experiencing with different computer applications, and makes it easier for them to become proficient's users of technology. When the computer and other technology becomes a helpful tool for the individual faculty member, then the use in classes with student is the next logical step (Johnson and Harlow 1993).
2. Obtain the equipment necessary to support classroom technology use. It is indeed very difficult for any faculty members, even the most enthusiastic, to embrace the instructional use of educational technology without at least some access for students and classes (Johnson & Harlow 1993) in (Novak & Berger, 1991). A traditional computer laboratory may be necessary to help support a 'hand' on oriented class, or at a minimum.
3. Provide an instructional expectation that faculty will include educational technology in their instructional many may feel that

is educational technology is important enough to be an expectation for the institutional curriculum. In essence it should be expected that all faculty will integrate technology into appropriate courses and situation. (Nelson, Andre, & Iceete, 1991: Novak & Berger 1991).

4. Provide periodic technology training for faculty. The fourth institutional objectives builds upon the equipment related objectives, and helps to support the faculty's ability to "Keep up" and build an understanding of new technologies of tin, because of the perceived stature of higher education faculty members, they or their institution are reluctant to become involved in training activities.
5. Provide an institution environment supportive of the crisk taking necessary by faculty to try new approaches to instruction. Faculty members also believe that their overall institutional environments are supportive of the general risk taking necessary to try new approaches.

The Challenges or Problems Affecting Teacher Education in Nigeria

1. One of the challenges facing Nigeria system is in adequate qualified manpower. This could explain the much talked-about falling standard education.

2. It also goes to support the age long adage, that “no education system can rise above the quality of teachers”
3. Experts trace the low rating of teachers in the Nigerian society to the development. Unlike other academics discipline that are highly competitive, there are scanty applications into faculties of education and colleges of education.
4. At a lecture he delivered at Tai Solarin university of education (TASUED) Ijebu, Ode, Ogun, recently, Professor Okebukola said most graduate teachers are no professional’s and are inadequately exposed to teaching practice while many of them cannot communicate effectively in English.

The Place of the Educational Technology in Teacher Education

- i. Individualized instrument
 - ii. Improvement in the quality of teaching
 - iii. Meeting the problem of mass education
 - iv. Equalization of Educational opportunities
- Individualized instrument: Educational technology is very helpful in individualizing instruction by enabling us to make use of self instructional programmes.
 - Improvement in the quality of teaching: Educational technology assists in the improvement of the teaching learning process by

enabling us use more varied rich and motivational programmes through T.V and other media.

- Meeting the problem of mass education: educational technology helps in using programmes developed by experts for a large population of students with the use of computers and T.V.
- Equalization of Educational opportunities: Educational technology assists us in making effort for equalizing educational opportunities irrespective of economic, social and geographical status of the learner.

At this level, resources are considered a viable 'mix' of men, machines, methods (techniques), materials, money, and curriculum - that can hopefully be adjusted to individual learning. All we need to do is to apply educational technology wisely and revitalise our teacher educational system particularly at some formal levels of education.

Educational has a three-dimensional approach (Davis 1973) namely:

- Hardware approach (the use of machines, tools, equipment; and gadgets)
- Software approach - associated with programmed instruction (characterised by detailed task analysis, writing to precise objectives, selection of learning strategies, reinforcement of correct responses, and constant evaluation) - the underlying

principle derive from the application of learning to the direct and deliberate shaping of behavior.

Application of system approach - a systematic process of managing ideas, resources, people, hardware and software and the environment in identifying and solving educational problems.

2.8 Summary and Uniqueness of the Study

This chapter is the review of related literature which discussed the conceptual frame work, theoretical frame work, essentials components of quality technology plan, the development of education technology in world, problems of educational technology in Nigeria and review of related empirical study on the role of education in Nigeria. A case study of Shehu shagari College of Education Sokoto.

Furthermore, what makes this research to be unique from other researches conducted on the topic related to this research is explanation of the essentials and development of educational technology worldwide which in all the studies conducted no one ever touch something of that nature.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the methodology of this research under the following sub-heading which includes: research design, population of the study, sampling and sampling techniques, instrumentation, validability, reliability, method of data collection and method of data analysis.

3.2 Research Design

The research is a case study designed to investigate the role of educational technology in teacher education programme within Shehu Shagari College of education, Sokoto.

3.3 Population of the Study

Professional Diploma in Education programme lecturers and Professional Diploma in Education students in Shehu Shagari College of Education, Sokoto, Sokoto State constituted the target population. A total of (25) lecturers and (80) students in the college were consulted, in addition to the Staff of centre for continuing Education and Educational Technology Centre. Hence, the generalization and findings are restricted only to the School of Education and Centre for Continuing Education in the college.

3.4 Sample and Sampling Technique

This research is restricted to Educational Technology Centre in its findings. The students and lecturers participating in Professional Diploma in Education in Shehu Shagari College of Education, Sokoto were randomly selected from the under listed schools: School of Education and Centre for Continuing Education stated below is how sampling had been carried out:

Ten (10) lecturers were chosen from lectures teaching courses in basic and general knowledge in education as well as two areas of specialization that are summarized below:

1. Basic and General Knowledge in Education / General Education of the professional Diploma in Education courses.
2. Primary Education (PDR) of the Professional Diploma in Education.

3.5 Instrumentation

The research instruments to be used in collecting the information are questionnaire and oral interview.

Questionnaire: Two different types of questionnaires were prepared (constructed) by the researcher, i.e role of educational technology in teacher education, questionnaire for lecturers (RETTEQL) and role of educational technology in teacher education, questionnaire for

students (RETTEQS). Finally, copies of different types of questionnaire were produced and administered in order to obtain necessary information from the students, and lecturers.

3.5.1 Validity of the research instruments

Validity of the questionnaire instruments was established using construct validity method. The instrument was given to experts in tests and measurement in the Shehu Shagari College of Education Sokoto, to establish its construct validity. The teacher and the students are unilaterally interviewed based on their educational background. The result from the interviewing shows that the response to the questions are all valid to the contemporary situation.

3.5.2 Reliability of the Research Instruments

The reliability of the questionnaires was gotten through test retest method in which the questionnaires was administered to the non-sampled respondents two times at three weeks interval between the first and second administration. The interviewing method was carried out to both teachers and students. The result shows that all the questions thrown to them was accurately answered. It is therefore to know that the result are reliable.

The scores for the first and second administration will be correlated using Pearson product moment correlation co-efficient at 0.05 level of significance.

3.6 Method of Data Collection

In order to generate data for the study, two questionnaires were designed and administered directly to the sampled lecturers and students of Professional Diploma in Education at the college and retrieved instantly.

3.7 Method of Data Analysis

The data presented in this study was analysed in tabular forms using frequency and percentages. While the data from the oral interview was analyzed qualitatively by forming various themes and sub-themes.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Introduction

As earlier on indicated, this study was designed and intended to investigate the role of Educational technology in Teacher Education in Nigeria, with reference to Shehu Shagari College of Education Sokoto as a case study. This chapter attempts to analyse the data collected in the process of the study.

This chapter also had deals with the presentation, analysis, and interpretation of data collected for this study from the respondents through the questionnaires administered. Each question has been considered in order to present the responses of the questionnaires administered. A simple analysis of the perceptions or opinions of the respondents. The analysis was done by calculating the percentage of the teachers and students that responded to a question either positively going by an answer “Yes” or negatively by choosing an answer “No”.

Majority of the teachers and students who happened to have collected the questionnaires have filled the question contained therein; by completing the data form, these serves as the basis for information collection and as a source for the benefit of our research work.

4.2 Summary of Major Findings

Teachers findings:

As regards to the questionnaires being distributed to teachers (lecturers) at Shehu Shagari college of education Sokoto, the following data (information) was gathered in accordance with the filled questionnaires as follows:

The question was asked in each questionnaires regarding the role of educational technology in teacher education in Nigeria: -

- i. Do the educational technology offered any services to teacher education programme in Shehu Shagari College of Education Sokoto?

Table 1: Questionnaire for students

Yes/No	Respondents comments	Frequency	Percentage %
Yes	Its offered services	21	12%
No	We are not aware	3	1.5%
Total	21 positive, while 3 negative	24	13.5%

- ii. Do you know the extent in which students of NCE programme in SSCOE use the services of educational technology?

Table 2: Questionnaire for teachers

Yes/No	Respondents comments	Frequency	Percentage %
Yes	The students of NCE benefit from the programme satisfactorily	15	9%
No	They require additional skills to cope up	2	1%
Total	15 positive, while 2 negative	17	10%

- iii. Do you encounter any problem in the application of educational technology concepts and resources in teaching?

Table 3: Questionnaire for teachers

Yes/No	Respondents comment	Frequency	Percentage %
Yes	We encounter a little problem because the system was newly established	5	3%
No	We don't encounter problem at all	13	8%
Total	13 positive, while 5 negative	18	11%

- iv. Does Educational Technology useful to students in learning generally?

Table 4: Questionnaire for teachers

Yes/No	Respondents comment	Frequency	Percentage %
Yes	Educational technology is very useful to students in learning	28	16%
No	Nil	0	0%
Total	28 positive, while 0 negative	28	16%

- v. Does the College of Educational Technology centre have the necessary personal equipment and resources required for teaching and learning?

Table 5: Questionnaire for teachers

Yes/No	Respondents comment	Frequency	Percentage %
Yes	The centre has most of required equipment for teaching and learning	7	4%
No	Still the equipment are required as they are not enough	2	1%
Total	7 positive, while 2negative	9	5%

- vi. Do you know the impact of educational technology centre on the teacher education?

Table 6: Questionnaire for teachers

Yes/No	Respondents comment	Frequency	Percentage %
Yes	It enhance teacher in developing their skill which yield positive to learning	40	23%
No	It help partial to some teachers because they require skill more than expected	7	4%
Total	40 positive, while 7 negative	47	27%

Students finding:

Subsequently, the students at Shehu Shagari College of education Sokoto are provided with research questionnaires, for them to provide answers to the researchers questions regarding the role of educational technology in teachers education as a place of enquiry the following data findings were been obtained (in a table form) according to their responses as follows:

- i. Do you determine the relationship between educational technology as a course and educational technology centre bound for effective teaching?

Students' questionnaires

Table 7: Questionnaire for students

Yes/No	Respondents comment	Frequency	Percentage %
Yes	They are determine as bound for effective teaching	175	100%
No	They are to be considered not bound but only useful	15	9%
Total	175 positive, while 15 negative	190	109%

- ii. Does educational technology equipt students with knowledge, skills and experience required of practice of Teaching on future and influences their successful academic performance?

Table 8: Questionnaire for Students

Yes/No	Respondents comment	Frequency	Percentage %
Yes	It equipt student's knowledge and skills and experience	71	41%
No	It does not because the programme need contraction from every angle	5	3%
Total	91 positive, while 5 negative	76	44%

- iii. Is the educational technology centre functionally serving students well?

Table 9: Questionnaire for students

Yes/No	Respondents comment	Frequency	Percentage %
Yes	The centre for educational technology is serving well	50	28%
No	It's not serving well	2	1%
Total	50 positive, while 2 negative	52	29%

- iv. Do you use the educational technology centre for academic training?

Table 10: Questionnaire for students

Yes/No	Respondents comment	Frequency	Percentage %
Yes	We use educational technology centre quit sure	39	22%
No	We have no orientation of how to use it	10	6%
Total	39 positive, while 10 negative	49	28%

4.3 Discussion about the Major Findings

Based on the research work we conducted at Shehu Shagari College of education Sokoto about the role of educational technology in teacher education in Nigeria, the questionnaires are used as one of the sources for gathering data and the information which is used in identify the facts about the subject matter effectiveness, the questionnaires are designed into two category, the first category was for the teachers who were the grass root for enhancing the educational technology and the second questionnaires are for the students who were the beneficiaries. Since in this programme, the instructional materials, which will enhance effective teaching and learning are provided at all levels of education.

In this aspect as regard to the data obtained from the teacher side regarding the question been asked about “Do the educational technology offered any services to teacher education programme in Shehu Shagari College of Education Sokoto? Twenty – one (21) respondent have answered yes which cumulated the 12% while the 3 respondents answered that they are not aware of the programme; and they constituted only 1.5%; we used this question and answered as the requirement for our research random – sampling method.

Also in our random – sampling concerning the students responses to the role of educational technology in teacher education in Nigeria a question was asked in our questionnaire as

STUDENTS: Do you use the educational technology centre for academic training?

Referring this question to students in our questionnaire 39 respondents answered “Yes” where they constituted 22% while only ten (10) of the respondents answer “No” complaining of lack of orientation which constituted only 6% of the average.

These shows that the role of educational technology in teacher education in Nigeria is a well attributing factor which enhances the development of both teaching and learning process in the Nigeria schools at every level.

4.4 Findings with Higher Responses

Considering the responses in both the teachers and the students side at Shehu Shagari College of Education Sokoto it would be seeing that the role of educational technology in teacher education in Nigeria was what cultivated the higher respondents who commented positively, than those who commented in an adverse opinion negatively.

Therefore the role of Educational Technology can never be over emphasized in Teacher Education in Nigeria, therefore it should be given much consideration both on clients side and the government on the other side.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

Chapter five involved the summary, conclusion, recommendation.

Therefore, the above mention topics are been treated individually in each a separate over view and their interrelation has been considered since they falled within the same chapter.

5.2 Summary of the Study

This study was designed to investigate the role of educational technology in Teacher education in Nigeria, setting in the research work the Shehu Shagari College of education Sokoto as a case study.

In the analysis of the data collected, it was discovered that the role of educational technology in teacher education in Nigeria cannot be over emphasized, therefore due to this research work different ways of data collection had been utilized such as oral interview, observation, questionnaire, the researchers also had engaged themselves throughout the research work in contacting records through seeking the permission from the management of Shehu Shagari college of Education Sokoto, also through, contacting staffs and the students of the college.

During our research work we conducted the development and the problems confronting the use of educational technology in teachers' education in some higher institutions learning. Therefore even the researchers themselves have encounter numerous problems during the time spending, stresses, and delay from the when enquiring from them any issue which they classified as confidential or secrete.

5.3 Implication of the Study to Teachers

Therefore as far as the role of educational technology in teacher education in Nigeria is concerned, it has origin and a longtime history in Nigeria. Concerning the higher institution of learning in Nigeria the first official support for educational technology was directed towards both pre-service and the in-service training of teachers and audio visual loan services (Imogie 1984) Apart from the development in the areas of schools broadcasts, there were the sponsored projects of the United nation Educational Scientific culture organization (UNESCO) in 1962.

This organization (UNESCO) introduced new method and techniques in Educational practices moreover programmed and learning method and its application was introduced. In 1964 three work shops were held concerning the technology in teacher education in Nigeria one at the Ahmadu Bello University Zaria. These brought about the establishment of educational Technology.

By considering the above history of educational technology in Nigeria, it should be noted that, it was an old programme therefore it is part of its development that necessitate its establishment in different institutions of learning including Shehu Shagari College of Education.

Therefore, it is part of the challenges for the teachers of every institution of learning to be up to date and be familiar with the Educational Technology in Teacher education. So that it could be helpful to them because of the numerous advantages attached to it. And they should also be acquainted with their present time development such device would help them in their teaching activities, and their students would be simultaneously understanding their teaching and the method that they are using would be very useful in enhancing and promoting both the Quality of skills, and knowledge.

5.4 Suggestion for Further Research

This study, the role of Educational technology in Teacher education in Nigeria is considered suitable because of its impacts of enhancing educational development.

Likewise the study improves the quality of Teachers and students in relation to the teaching and learning process. Educational Technology can be considered either as a designed science or as a collection as the difference research interested in Addressing fundamental issues of learning, teaching and as social organizations.

We therefore suggest that the Education Department of Usmanu Danfodiyo University, Sokoto, should kindly be presenting this topic and any other topics that would advance the teaching and learning process to students of various level, the students of undergraduate in particular, because by doing so a lot of the developments, achievements would be placed in the field of acquiring knowledge.

5.5 Conclusion

Pertaining this research work, it revealed different aspect of educational technology in teacher education within the Shehu Shagari College of education in Sokoto, the aspects which are identified includes the developments, and the factor hindering the educational technology not only in Shehu Shagari College of Education but in all related tertiary institutions in Nigeria.

The developments are hoped to be encouraged and the problems are wished to be addressed, since Teachers are in dispensable within teaching-learning process. Hence they constitute a major output in the accomplishment of educational goals and objectives in all Nations. In Nigeria teacher education has been bedeviled with a lot of challenges in the modern day technology of imparting knowledge in the teaching and learning process.

During our descriptive research it revealed that many teachers in Shehu Shagari College of Education Sokoto are not using the

facilities provided by the educational technology programme in teaching – learning process due to some challenges which includes high exorbitant price of the facilities, lack of proper electricity supply, lack of adequate trained manpower etc.

Most of these problems due to the lack of commitment on the part of the government.

5.6 Recommendations

In view of the findings of this study the following recommendations are advanced.

1. The issue of educational Technology in Teacher Education shall be given a special consideration by every part and parcel, more especially; the government, the Educational Authorities and patriots members of the public or society so that there should be a continue education.
2. The barrier of every organizational programmes are in adequacy of funds therefore to curtails this problem excessive funds learning process so that a genuine and effective knowledge would be maintain.
3. The teachers and students should be motivated in the process of learning more especially in Education; by giving due reward and compensation to teacher because of their role in up grading the quality of education of youthful generations.

Appendices

Designed Questionnaire for the Teacher

This questionnaire was formulated and designed for the lecturers (Teacher) of the Shehu Shagari College of Education Sokoto. In order to enquire or exploit the information the information from them about the role of Educational Technology in Teacher Education in Nigeria with special consideration to their institution in which the programme is being run because of the importance attached to it, which includes the improved open access to education and enhances the attainment of specific goals which help the teaching and learning processes.

The questionnaire was designed for the teachers as follows:

a. **PERSONAL RRESPONDENT DATA:**

- i. Name of the Respondent
- ii. Gender a. Male b. Female
- iii. Age of the respondent a. Above 20 b. Below 20
- iv. Present qualification of the respondent.....
- v. Nationality Nigerian Non – Nigerian
- vi. Marital status Married Non – Married

b. The designed questions for the teachers are:

- i. Do the educational technology offered any services to teachers education programme in Shehu Shagari College of education Sokoto?
- ii. Do you know the extent in which students of NCE programme in SSCOE use the services of educational technology?
- iii. Do you encounter any problem in the application of educational technology concepts and resource to teaching?
- iv. Does Educational Technology useful to students in learning generally?
- v. Does the College of Educational Technology centre have the necessary personal equipments and resources required for teaching and learning?
- vi. Do you know the impact of educational technology centre on the teacher education?

After the above questions are designed for the teachers to answer, a frequency table was also formulated for each question being ask, in order to records, the number and the percentages of the teacher respondents, so that their responding in max, and by providing positive answer could be tallied and identify the effectiveness and the role of Educational technology in Teacher Education; The table was designed as follows:

(i) Table for question 1

RESPONDENTS	FREQUENCY	PERCENTAGE
Yes		
No		
Total		

(ii) Table for Teacher Questions 2

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(iii) Table for Teacher Question 3

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(iv) Table for Teacher Question 4

RESPONDENTS	FREQUENCY	PERCENTAGE
Yes		
No		
Total		

(v) Table for Teacher Question 5

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(vi) Table for Teacher Question 6

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

Designed Questionnaire for the students

Like the questionnaire for teachers, the students also were provided with their own questionnaires, which was aim at the collection of information in order to have their responses towards what they can viewed about the role of Educational Technology in Teacher Education in Nigeria move especially pertaining their educational institution which serves as the point of the researchers case study that is the Shehu Shagari College of education based in Sokoto.

The questionnaire formats was designed similar to that of the teachers but differed only in terms of the questions being asked. The format of the questionnaires and their question as well as the designed tables are as follows:

a. PERSONAL DATA FOR STUDENTS RESPONDENTS:

- i. Name of the student.....
- ii. Course of the student.....
- iii. Study level.....
- iv. Gender (a) Male (b) Female
- v. Age of the student respondent (a) above 20 (b) below 20
- vi. Nationality(a) Nigerian (b) Non – Nigerian
- vii. Married status (a) Married (b) Non – Married

b. The questionnaires for the students are:

- i. Do you determine the relationship between Educational technology as a course and educational technology centre bound for effective teaching?
- ii. Does educational technology equipped students with knowledge, skill and experience required of practice of teaching on future and influences their successful academic performance?
- iii. Is the Educational Technology centre functionally serving students well?
- iv. Do you use the educational technology centre for academic training?

The above questions are designed in the researchers questionnaires for the students of the Shehu Shagari College of Education Sokoto, simply to analyses their awareness pertaining the role of Educational Technology in Teacher Education in Nigeria. And the answer questionnaire table formats was also designed for them to fill in so as to be able to count their responses, the table are as follows:

c. (i) Students questionnaire table 1

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(ii) Questionnaires Table 2

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(iii) Questionnaires students question table 3

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

(iv) Questionnaires table 4

RESPONDENTS	FREQUENCY	PERCENTAGE %
Yes		
No		
Total		

REFERENCES

- Adewoyin J.A (1991) Introduction to Educational Technology. John – Lad publishers Limited Lagos.
- Aggarwal, J.C. (1995). Essential of Educational Teaching Learning. India, Vishal Printers, Delhi. p. 2, 33-34.
- Ajayi Y.A and Salami A.A (1999) An Introduction to Education Technology; For students and Teachers, Department of Curriculum Studies and educational Technology school Education, Kwara State College of education Ilorin.
- American journal of Humanities and Social sciences © 2012 – 2015 world scholars U.S.A.
- Dalsgaard, Christian. “Social software: E-learning beyond learning management systems”. (http://www.eurodl.org/materials/contrib/2006/Christian_Dalsgaard.htm). Eurodl.org. University of Aarhus.
- Fichten, C.S., Ferraro, V., Asuncion, J.V, Chwojka,C., Barile, M., Nguyen, M.N., Klomp, R., & Wolforth, J. (2009). “Disabilities and e-Learning Problems and Solutions: An Exploratory Study”.
- Grabinger, R.S; Aplin, C; Ponnappa-Brenner, G. (2008). “Support learners with cognitive impairments in online environment” <http://ipt287fo9s2pbworks.com>.
- Hewett S. (1971) The training of teachers “A Factual Survey” University of London Press.
- McFoland H.S.N (1973) Intelligent Teaching; Professional Skill for Teachers Route ledge and Keagan Paul Ltd.
- Nagy, A. (2005). The Impact of E-Learning in: Bruck, P.A., Buchholz, A., Karssen, Z., Karssen, Z.; Zerfass, A. (Eds).. E-Content: Technologies and Perspectives for the European Market. Berlin: Springer-Verlang, Pp. 79-96.
- Sajadi, S.S., & Khan, T.M. (2011). “An evaluation of constrictivism for learners with ADHD: Development of a constructivist pedagogy for special needs” (<http://brunel.ac.uk/bitstream/2438/8488>).
- Seels, B.B., & Richey, R.C. (1994). Instructional Technology: The Definition and Domains of the Field Association for Educational Communications and Technology: Washington DC. P. 1,4,47.

- Sharma, Y.K. & Sharma, M. (2006). Educational Technology and Management. Kanishha Publishers, Distributors, New Delhi – 110 002. Vol.-1. P. 28, 31, 40-47,57-58.
- Smith, P.L., & Ragan, T.J. (2005). Instructional Design (3rd Ed.) Hoboken, NJ: John Wiley & Sons. P.4
- Suleman, Q. (2008). The Use and Availabililty of Audio Visual Aids in Teaching of Science at Primary Level in Tehsil Banda Daud Shah (Karak). Unpublished Master Thesis, Institute of Education & Research, Sarhad University of Science & Technology Peshawar, p.2.
- Ugbede E.O and Abdulsalam O.M (2005) Educational technology for Teachers Education Kontagora Central Link Nig. Ltd.
- Swift, D. (1969). The Sociology of Education Introductory Analytical Perspectives. London: Routledge and Kegan Paul.