

**PRE-SERVICE TEACHER TRAINING IN TWO OPEN AND DISTANCE
LEARNING BASED UNIVERSITIES IN AFRICA**



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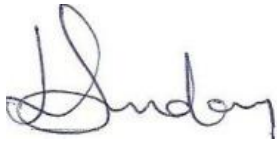
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ETHICAL DECLARATION

I declare that this study “Pre-service teacher training in two Open and Distance Learning based Universities in Africa” which is submitted to the University of Zululand in fulfilment of the academic requirements for the award of Doctor of Education is my original work. I also declare that the work has not been presented for the award of any degree at any other university. All the sources that were consulted in the study have been duly acknowledged both in the text and in the references.

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Prof. D.R. Nzima

Supervisor

31st January, 2018

Date

DEDICATION

To God the Enabler, and to my Parents; for their constant prayers and supports

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“It does not, therefore, depend on human desire or effort, but on God's mercy (Romans 9:16 NIV) ”.

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ABSTRACT

The study examined pre-service teacher training in Open and Distance Learning based Universities in South Africa and Nigeria. The specific focus of the study was on the initial teacher education programmes at Bachelor of Education (B.Ed.) and Postgraduate Certificate in Education (PGCE/PGDE) phases in the two ODL based universities. The theories of self determination, humanism, transformational learning, distributed learning, and transactional distance served as the frameworks for the study

Information for the study was gathered through survey. Anonymous web-based questionnaire was designed and used to obtain information from the pre-service teacher trainees in the two ODL based universities. Interviews were conducted for a selected number of academic and support staff members from the two universities. A combination of purposive and stratified random sampling was used to generate the sample frames of the participants for the study.

The sample of the pre-service teacher trainees that participated in the study was drawn from the nine (9) Provinces of South Africa, and six (6) Geo-political zones of Nigeria. One thousand, two hundred and sixteen (1216) ODL based pre-service teacher trainees in their B.Ed. and PGCE/PGDE programmes responded to the web-based questionnaire from the two countries. In addition, a total of ten (10) academic and support staff members were interviewed from the two Universities.

The overall results revealed that the majority of pre-service teacher trainees by distance are young people between 18 and 29 years of age, unemployed or engaged in voluntary works with no stable source of income. Furthermore, flexibility of the programme and desire to work full time while studying were found to be the major factors that motivated majority of the participants to enrol in pre-service teacher training by distance.

Electronic mail (E-mail), postal services, Learning Management Systems (LMS), radio programmes, and social media were found to be the major platforms through which the selected ODL based universities reached their pre-service teacher trainees. Moreover, mobile phone and tablet were found to be the major devices that the sampled student teachers used to access learning materials.

The study also revealed that pre-service teacher trainees in the selected universities had access to public primary and secondary schools for teaching practice, as well as physical laboratories through which they put into practice the knowledge they have acquired by distance. Moreover, the universities' teaching practice assessment and evaluation methods were found to be similar to that of the conventional universities.

However, pre-service teacher training by distance in the two African countries face many challenges which include inadequate awareness of students about open and distance education and its modalities, difficulties in securing space in schools for teaching practice, inadequate funding opportunities for students in ODL based teacher training programmes, gap in communication created by weak support system, anxiety over the value of distance learning degrees, inadequate support for pre-service teachers trainees with disabilities, inadequate institutional supports for the academic staff, inadequate access to the internet, and insufficient computer /I.T. skills among the pre-service teacher trainees.

The study recommends thorough screening for prospective candidates into pre-service teacher training by distance, renewed partnership between ODL universities and public schools, special bursary opportunities targeted at young people in teacher training by distance, strong support or feedback system to be established by the ODL based universities, and partnership with Mobile Telecommunication companies with the aim of providing constant internet services for distance learners at affordable rates.

The study proposed for future researchers to focus more deeply on the quality assurance in teacher training by distance in Africa, especially in the context of pre-service, in-service, and teachers' professional development.

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ACRONYMS AND ABBREVIATIONS

ACE: Advanced Certificate in Education

B.Ed: Bachelor of Education

CHE: Council of Higher Education

D.Ed: Doctor of Education

DHET: Department of Higher Education and Training

DoBE: Department of Basic Education

ICT: Information and Communication Technology

ITE: Initial Teacher Education

M.Ed.: Master of Education

NCE: National Certificate in Education

NECO: National Examination Council

NOUN: National Open University of Nigeria

NPDE: National Professional Diploma in Education

NSFAS: National Student Finance Aid Scheme

NTI: National Teacher Institute

NUC: National University Commission

ODE: Open and Distance Education

ODL: Open and Distance Learning

PGCE: Postgraduate Certificate in Education

PGDE: Postgraduate Diploma in Education

PhD: Doctor of Philosophy

RQ1: Research Question One

RQ2: Research Question Two

RQ3: Research Question Three

RQ4: Research Question Four

SSCE: Senior School Certificate Examination

TRCN: Teacher Registration Council of Nigeria

UNISA: University of South Africa

UNIZULU: University of Zululand

UZREC: University OF Zululand Research Ethics Committee

WAEC: West African Examination Council

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

The demand for teacher education in developing countries is so great that policymakers, programme planners, and teacher educators will have to explore alternatives to these existing conventional programmes. Open and distance-learning programmes (ODL), often 'school-based,' can provide a flexible and effective response to the challenge. Indeed, for many countries, particularly those in Sub-Saharan Africa, this may be the only realistic option, not only for access, but also for system-wide school improvement (Moon, Leach, & Stevens, 2005:12).

1.0 Introduction

This chapter presents the background to the study on pre-service teacher training in two open and distance learning based universities in Africa by outlining the key research concepts of the study. Specifically, the chapter describes the problem statement, research objectives and questions, motivation and significance of the study, contributions of study to the body of knowledge, scope and delimitation of the study, as well as the definitions of key concepts and terminologies used in the study. The chapter also highlighted briefly some ethical issues observed in the study which guaranteed the safety and anonymity of the participating individuals and institutions.

1.1 Background to the study

The provision of high quality teacher education programmes has been one of the critical educational challenges facing both developed and developing nations today. As noted by Connell (2014), the quality of a teaching force is dependent on more than simply the availability of teacher training but also about making sure that the right kind of teacher education is available.

Studies conducted by Pityana (2007), Biao (2012), and Samkange (2013) on teacher education and training in Africa revealed that conventional educational system have its limitations and cannot adequately cater for the huge number of teachers needed to meet the 21st century educational needs. Tsolakidis (2000) notes conventional schooling system to be a globally accepted approach for knowledge acquisition that has survived over the centuries. Although, open and distance education is not a new approach to education. The system has been in existence for over 100 years and it has become the best alternative means for many African countries to meet the ever-increasing demand for higher education among their citizens (Braimoh, 2003). While corroborating this view, Aluko (2007) notes that the situation might require the building of one new university per week for the next twenty years, had open and distance learning system not discovered.

Furthermore, Daniel (1996) notes several challenges facing conventional higher education and categorized them into five, which are:

- Inability to admit the volume and variety of student seeking higher education;
- High cost of higher education and degrees that are not sufficiently relevant to the labour market;
- Teaching and learning techniques that are not flexible to accommodate a diverse range of students;
- Quality assurance of educational deliverables not guaranteed.

Unlike the conventional school system which comes with some forms of strict conditions of time and location, open and distance education made education flexible by providing increased educational opportunities for different categories of people in different situations and needs. Moreover, open and distance learning is an educational process in which a significant proportion

of learning takes place remotely and flexibly beyond the formal learning environment (Aderinoye and Ojokheta, 2004). Yousuf et al (2008) also described open and distance education to be an organized educational activities, based on the use of learning materials, in which constraints on learning are minimized in terms of access, time and place as well as pace and method of study. Similarly, the revised Nigerian National Policy on Education detailed that:

the goal of distance education should be to provide access to quality education and equity in educational opportunities for those who otherwise would have been denied, meet special needs of employers by mounting special certificate courses for their employees at their work place, encourage internationalization especially of tertiary education curricula, and ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing home-based experts as teachers regardless of their locations or places of work(FGN, 2004, p.11).

Despite the wide acceptance of open and distance education globally, many accusations have been levied against the system. These include:

- Inability of the lecturers to have physical contact with learners which can have a significant effect on the learner's motivation (Suen & Parkes, 2004), most especially the isolation arising from learners' and facilitators' being detached by geographical distance (George, 1999);
- Open and distance education requires a significant amount of self motivation and self-discipline(Keen, 1999)for recipients to record the same rate of success being recorded by the learners in conventional school system;
- Lack of non-verbal communication (Barnes, 1995), inadequate knowledge of computers and networking (Fisher & Desberg, 1995) which is common among the low-income, disadvantaged and underrepresented learners that are supposedly to be catered for by open and distance education programme (Burke, 2002).

- Open and distance education may not be appropriate to train teachers for sciences and practical oriented subjects that requires experimentations like Physics, Chemistry, Biology, Physical and Health Education, among others (St. Pierre, 2012).

In the perspective of teacher education and training, however, open and distance education has been used as a vehicle to recruit and train new teachers as well as to improve the skills, knowledge and qualifications of an existing teaching force (Aluko, 2007). The wider expansion and upgrading in open and distance learning institutions today could be attributed to the quest for continuing education and opportunities to earn additional certifications for teachers who have gotten at least a minimum level of certification for their content and grade level.

In South Africa, one of the greatest challenges facing the system of education, as noted in a recent report published by the Centre for Development Enterprise (CDE, 2015) is the production of sufficiently qualified and competent teachers who can provide quality teaching and learning for all school subjects and phases. However, two key national initiatives are being undertaken to address this challenge: first, is the development of a teacher education framework introduced by the Department of Higher Education; second, is the review of teacher education programmes initiated in October 2004 by the Council on Higher Education (Olaniyi, 2014).

Through initial teacher education (ITE) programmes, student-teachers obtain either a four years Bachelor of Education (B. Ed) degree or a one year Post Graduate Certificate in Education (PGCE) after a three year undergraduate degree (CDE, 2015). Since both programmes span through four year qualifications, the official requirement for a qualified teacher in South Africa is known as M+4, a matric (school leaving) certificate plus four years of ITE. Until very recently, M+3 (i.e. Matric plus three years of ITE) was the official requirement, as most teachers are qualified with M+3 (Olaniyi, 2014). As noted in the CDE report (2015), the quality of most

ITE programmes leaves a lot to be desired and the result is that most of the current teaching force has been inadequately educated and trained. Thus, efforts were made to upgrade the status and qualifications of serving teachers through open and distance learning institutions like the University of South Africa (UNISA) and Lyceum College, among others. In these cases, teachers are being encouraged to enrol for Further Training Certificate with specialization in the Foundation, Intermediate, or Senior and FET Phases.

However, one issue about the open and distance learning system which has become the subject of debate among scholars is how institutions conducting open and distance learning programmes can effectively assess quality in terms of the training they offer, technologies and materials they use, and graduates they produce annually. South Africa and Nigeria, like most of the developing nations, continues to experience shortage of skilled labour in key areas of the economy. One such key area that has suffered skills shortages is teaching. This has enabled the governments and institutions of higher learning coming up with strategies to improve education, especially in training qualified and competent teachers for their societies. Such educational interventions include the Open and Distance Education (ODE) aimed at recruiting new crops of teachers as well as developing the skills and competencies of the in-service teachers (Olaniran, Duma & Nzima, 2017). The study is aimed at examining how pre-service teachers are being trained in the selected open and distance learning based universities in South Africa and Nigeria, with a view to finding out the pedagogical content knowledge of the teacher trainees by distance, the support services available to them, motivation of students for joining teacher training by distance, among others.

1.2 Statement of the Problem

Open and Distance Education (ODE) is believed by many as one of the keys to addressing critical problems facing skills development in developing nations such as inadequate qualified teachers and instructors in schools, and lack of professional development training for in-service teachers owing to the constraint of time and funds (Samkange, 2013). While there is a broad consensus on the importance of using open distance learning mode to train teachers because of the current huge demand for teachers, there is dearth of research about what pedagogical contents and methods are appropriate to ensure that teachers who acquire education in open and distance learning based institutions are able to perform effectively on the field like their counterparts who passed through the traditional school settings. Since open and distance learning programmes are gaining rapid momentum in Africa, a study about how student teachers learn to teach via this mode is vital. Although, distance learning based teacher training is gaining popularity across the globe, it is not without its critics. St. Pierre (2012) notes that open and distance learning (ODL) mode may not be appropriate to train teachers who are to handle activities-based subjects like Physical Health Education (PHE) and laboratory-based science subjects because of the physical/practical exercises involved in the teaching-learning process of such subjects. While Scholars like Alkali (2006) and Biao (2012) supports the use of open and distance learning to train teachers because of the huge number of teachers needed to meet this century educational needs. Mood cited in St. Pierre (2012) submits that training received through distance learning is a second class education and that students who learn through this medium are not receiving the same level of quality education as traditional classroom peers. In order to change this perception about open and distance education, COL (1997) opined that ODL providers must pay close attention to quality in terms of products, processes, production, delivery

systems, and philosophy. Furthermore, St. Pierre (2012) noted that the importance of credibility and quality for open and distance learning degrees must be considered when developing courses and programmes for open and distance learning programmes. In other words, curriculum developers and other stakeholders in open and distance learning must be conscious of students and employers' perceptions about the value of distance learning degrees.

In Nigeria for instance, the National University Commission (NUC) recently released a statement that “online degrees obtained from foreign institutions would not be accepted as a means of seeking employment or doing other legitimate business in Nigeria” (Punch, 2015, p.7). The commission, which also discredited all part-time cross-border education in Nigeria, warned citizens against patronizing distance learning and online universities which offered academic programmes without physical contact with their students. Ajayi and Osalusi (2013) also blamed teachers for the poor result of Nigerian students who sat for the Senior School Certificate Examinations conducted by the West Africa Examinations Council (WAEC) in 2014 which revealed over 68 percent failure in Mathematics and English against 65 and 60 percent recorded in 2013 and 2012, respectively. Because of the incessant failures of students in matriculation examinations, many educational analysts in Nigeria are of the opinion that teachers' training institutes by distance in the country are not actually improving the quality of teachers but adding to the quantity of those who seek teaching certification.

Similarly in South Africa, according to a report published by the Times Higher Education (2011), there are several challenges facing the recipients of distance education in the country. The report particularly noted that most distance learning institutions in the country targets black and employed teachers who are upgrading their qualifications only to get a pay rise. In view of the aforementioned confusions and challenges that beset the training of teachers through open

and distance learning, how can the pre-service teacher training by distance be re-engineered to achieve better teaching pedagogy, technologies and contents in attracting, recruit and train high quality candidates as teachers for the two countries?.

1.3 Objectives of the Study

This study aims to examine the training of pre-service teachers in open and distance learning based universities in South Africa and Nigeria. The specific objectives are:

1.3.1 To explore the reasons which motivate student-teachers to enrol in the ODL-based universities in South Africa and Nigeria

1.3.2 To examine the methods and channels being employed by the ODL based universities to train pre-service teachers

1.3.3 To explore how the student-teachers put into practice what they have learnt through distance delivery mode

1.3.4 To explore challenges facing pre-service teacher training in ODL based universities and suggest ways of improvement such that their programmes meet the 21st century demand for better quality teachers.

1.4 Research Questions

1.4.1. What motivates the student-teachers to enrol for pre-service teacher training in the ODL based universities?

1.4.2 What are the methods and channels used by the ODL based universities to train pre-service teachers?

1.4.3 How do these student-teachers put into practice what they have learnt through distance delivery mode?

1.4.4 What challenges are facing the ODL based teacher training programmes and what improvement can be suggested such that their programmes meet the 21st century demand for better quality teachers?

1.5 Scope of the Study

The discussions of pre-service teacher training by distance in this study include the origin and operations of ODL based teacher training programmes in South Africa and Nigeria, factors motivating students for enrolling in distance learning based pre-service teacher training, the effective use of Information and Communication Technology (ICT) tools in teacher training by distance, evaluation of teaching practice exercise of pre-service teacher trainees by distance, and challenges facing pre-service teacher training by distance in the two African countries, namely South Africa and Nigeria. The two universities selected as case study for the research are established and funded by the government to run open and distance learning programmes only at

the time of the study. Participants included pre-service teacher trainees who have enrolled and pursuing Bachelor of Education (B.Ed.) and Postgraduate Certificate/Diploma in Education (PGCE/PGDE) degrees in each of the institutions. A selected number of academic and support staff members of the two universities were also interviewed. Therefore, the findings of this study were limited to the universities.

However, it must be established at this point that it is not the goal of this study to indicate which mode of education is better between distance or conventional to recruit and train new teachers in the world. It is a known fact that both developed and developing countries of the world are faced with diverse learning constraints. These include time, space, and funding, among others. Open and distance education provide lasting solutions by reaching their overwhelming population that demand higher learning and training across the globe.

It is also important to stress that this study may not provide all the answers to the many questions to be raised as far as pre-service teacher training by distance is concerned – the study is set out mainly to fill some of the vacuum already identified in literature as far as pre-service teacher education programmes by distance in selected African countries are concerned.

1.6 Significance of the Study and Contributions to Knowledge

The quality of an educational system cannot exceed the quality of its teachers (McKinsey, 2007). One of the ways of improving the educational system of a nation is to improve the quality of the teaching that happens in their classrooms through qualitative teacher training and development programmes. Open and distance learning system seem to be one of the best platforms to facilitate

training for in-service teachers and recruit more teachers. This study examined the training of pre-service teachers in open and distance learning based universities in South Africa and Nigeria. The study reviewed the impact of current teacher training programmes by distance on student teachers' knowledge, beliefs and practices. Given the comparative nature of the study, it attempts to make worthwhile contributions to the field of teacher education and distance learning operation and programme delivery in Africa. Although several scholars have worked on the operations of open and distance education in different African countries, the uniqueness of this study is its concentration on the issues surrounding pre-service teacher training through open and distance learning in the selected African countries. The study enhanced understanding of the reasons why student teachers enter into teacher training and what inform the mode of study between the traditional classroom-based and distance learning. In addition, the study further expanded the frontier of knowledge and scholarship in the following ways:

Knowledge: This study leads to the generation of new knowledge and scholarship about how teacher trainees by distance learn and how this transfer into classroom teaching which enables better understanding of what provisions inform the success of teacher training programmes by distance. The study also attempted to provide better understanding for government about the quality of education provided by distance, especially the one involving the training of teaching manpower for the nation.

Literature: Some of the previous studies (Keen, 1999; Bucke, 2002; Suen & Parkes, 2004; Shah, 2005; Pityana, 2007; Herman & Pillay, 2007; St. Pierre, 2012; Biao, 2012; Ajayi & Osalusi, 2013; and Samkange, 2013) have identified gaps in the training of pre-service teachers through open and distance learning mode. This study attempts to fill these gaps.

Policy: It is pertinent to note that this study has implications for the commitments given by the Federal Ministry of Education (FME) in Nigeria, and the Department of Basic Education (DoBE) in South Africa to enhance the quality of teaching and learning in elementary and high school levels by providing a rich and detailed analysis of the state of initial teacher education and the early teaching experiences of newly qualified teachers.

Practice: the study created rooms for dialogue among the providers of open and distance education in the two countries on their teacher training programmes and how they can improve on the delivery, technologies and output to meet the 21st century quality teaching and learning. The study also provides understanding of whether the delivery mode of teacher training has impact on teacher's performance or not.

1.7 The Research Design for the Study

The descriptive research design of a case study which uses survey was employed for this study. Berthán and Christiansen (2015) viewed case study as an approach to research that focuses on gaining an in-depth understanding of a particular event or phenomena at a certain time. Similarly, Yin (2003) lists various reasons for using case study approach in academic research. These reasons include when the focus of the academic study is to provide answer to 'how' and 'why' questions, when the behaviour of respondents involved in the research cannot be manipulated, when the research is trying to contextual the research conditions because of the belief that they are relevant to the phenomenon under study, and lastly when the boundaries are not very clear between the phenomenon and context.

The survey for the study was carried out using both quantitative and qualitative techniques. The reason for multiple approaches is to maximize relevant data gathering among the target participants for the study.

1.8 The Limitations of the study

The study aimed at exploring pre-service teacher training by distance in the selected two African countries. The researcher hopes that the results which emanated from this study will help the institutions offering ODL based teacher training programmes to strengthen their programmes and institution's outputs. The study was inhibited by the busy schedule of the academic and support staff members of the selected institutions, many of whom had limited time to respond to interview questions. Another limitation to this study was that most of the studies relating to teacher training by distance in Africa have been published mainly to look at professional development of teachers, thus limiting the reach of literature on the perspective of initial teacher education programmes in the ODL based universities.

1.9 Definition of Operational Terms

Definitions of some key terms and terminologies as used in the context of this study are provided below. These key terminologies were clarified during the review of related literatures. Key authors who also provide definitions to some of these terminologies were also cited to substantiate such terminologies.

Access: This refers to the ability of individuals to have equal educational opportunity, irrespective of gender, social status, ethnicity background or disabilities. Herman and Mandell (1999) viewed the concept of access as efforts towards extending educational opportunities to individuals who have been excluded from education.

Conventional Education: This is used in the study to refer classroom based education. In most instances, traditional education is used to mean conventional education.

Delivery Systems: This refers to the channels or platforms through which learning or information is being passed to the recipients from the host. In the case of this study, channels like Moodle, Black/whiteboard, internet, social media, radio, telephone, among others are seen as delivery systems.

Output: This is used to mean the result or product of an educational engagement or institution. Oxford English Dictionary (2004) defined the word ‘output’ to be ‘the product of any industry.’

Learner Support: This refers to the virtually operated platforms where learners receives support and feedback that helps them in their learning engagements. Learners’ support system can be online, offline or both.

Pre-service Teachers: The term ‘Pre-service teachers’ is used to refer to the students undergoing initial teacher education programmes with the aim of becoming professional classroom teachers. Mashau (2012) posited that pre-service teacher education as the education and training provided to student teachers before they have undertaken any teaching.

Teacher Educator: The term ‘Teacher Educator’ as used in this study referred to someone who educates teachers. These are generally Professors in teacher training institutes that are directly

responsible for the training and evaluation of those studying to become professional classroom teachers.

According to Fisher et al. (2008), Teacher educators include:

- Faculty members in institutions of higher learning who provide course work and undergo research activities that produce results for the overall professional development of teachers in a country.
- School personnel who give instruction or provide supervision that leads to smooth practical experiences of prospective teachers
- Personnel from other agencies or organizations who design, execute, and evaluate professional experience or engagements of teachers or teacher trainees

Facilitators: Also known as instructors, facilitators help learners understand the content of learning as well as the goals/objectives of a learning programme. In the conventional institution setting, facilitators are referred to as teachers or lecturers who directly involved in the teaching and learning activities.

Support Staff: Support personnel are those employed by higher education institutions to play some active roles in delivering the goal of teaching and learning programmes. Their roles include communicating with learners, sending, receiving and responding to feedbacks, passing online learning contents to a group of learners, setting up of course modules online for learners to access, among others.

Quality Assurance: This is used to refer to the necessary steps taken to ensure that standards and procedures are followed on products, services and operations in order to meet performance requirements.

Content Knowledge: Content knowledge, in this study, means theories, principles and practice that are taught and learned in institutions which a teacher specialize and ready to pass across to learners in the classroom settings.

Pedagogical Content Knowledge: This refers to the unique knowledge possessed by a teacher both on the content of a subject and the ability to teach that subject to a group of learners. Shulman (1986) defined pedagogical content knowledge as “‘teachers' interpretations and transformations of subject-matter knowledge in the context of facilitating student learning’”.

1.10 Ethical Considerations

Ethical issues in research focus mainly on participants of a research activity, intellectual ownership and plagiarism. Resnik (2015) viewed ethics in research to be a method, procedure, or basis for deciding how and when to act and for analyzing complex issues associated with research. For this study, the participating groups were guaranteed that the data obtained would be treated with utmost confidentiality, and that the results of the findings would be used for research purposes only. Similarly, to ensure that the participants felt safe, they were not required to give their names, addresses and cell phone numbers on the questionnaire used to gather information for the study. Findings of the study were also reported in such a way that the participants' identity could not be traceable.

Prior to the search and collection of data for this study, the researcher applied for ethical clearance not only from the host institution but also from the selected open and distance learning based universities where the respondents were drawn from.

The ethical standard and policies concerning intellectual property, plagiarism, fair use and copyright of the University of Zululand were upheld throughout the period of this study based on the approval of the University of Zululand Research Ethics Committee (UZREC). The request for ethical clearance was granted by the university (see Appendix A). Furthermore, additional ethical clearances were granted to the researcher by the two ODL based universities selected for the study. This was because the researcher was mandated to apply for separate ethics clearances from the two universities before he was allowed to collect data.

Moreover, the study made every possible effort to abide by the general principles set out in the participating institutions' policies and the obligations, and to mitigate any ethical and other risks that might arise. This was explained further in the methodology section of the study.

In particular, the researcher undertakes to:

- Respect the dignity, safety and well-being of the teacher-trainees, academic and support staff members, and open and distance learning universities selected for the study. In summary, their anonymity and confidentiality were duly respected
- Consider and be sensitive to different cultures, language, beliefs, perceptions, and customs of persons who participate in or are affected by this research;
- The researcher ensured that the research is relevant to the broad legal and developmental needs of teacher education and ODL in South Africa and Nigeria, and to the individual needs of those who may be affected by this study;

- The researcher took the responsibility to conduct the research and produce the thesis as an individual, subject to normal supervisory and collegial assistance;
- Acknowledge and attribute to others the ideas, designs and writings that are not the original thoughts of the researcher;
- Reference every work accurately according to the institution's chosen referencing guide, and comply with copyright requirements and seek the necessary permissions from the selected ODL based universities, where required;
- Make use of text-matching software throughout the research writing process, as discussed and required by the supervisors, and will submit appropriate reports in this regard with the proposal and thesis when they are in final draft form; and
- Seek ethical clearance and approval from the host university and other participating institutions to allow this study to proceed.

Furthermore, should circumstances arise that impact upon his ethical obligations, the researcher pledged to disclose them to his supervisors and the research offices of the participating universities, for appropriate action, where required, in terms of relevant University policy.

1.11 Dissemination of the research findings

Dissemination of research findings is a crucial aspect of any research undertaking, be it academic or social (Macquarie, 2015). Dissemination of research findings is usually done through presentations in conferences and seminars, publication in peer-reviewed journals or book chapters, and submissions to the institutional based digital repositories. In fulfilling the requirements for the award of Doctoral degree in Education (D.Ed.) of the University of

Zululand, part of this research study were accepted and disseminated through local and international conferences, and published in peer-reviewed SAPSE accredited journals. The researcher would like to acknowledge the valuable contributions received from the reviewers and editors of these conferences and publications. Their invaluable contributions were used to further strengthen this work. They include:

Peer-reviewed conferences

- **Olaniran, S.O. (2016).** Availability, Access and Use of Science Practical Equipments among Pre-service Teacher Trainees in ODL based Universities. *48th International Conference on Education and Social Science (ICESS-2016), Copenhagen Denmark 23-24 May.*
- **Olaniran, S.O. (2016).** Dealing with Learning Disabilities in Open and Distance Education: Exploring the Experiences of Distant Pre-service Teacher Trainees with Special Needs. *Faculty of Education Mini Conference, University of Zululand, KwaDlangezwa Campus: 29 - 30 August.*
- **Olaniran, S.O. (2016).** Dealing with Learning Disabilities in Open and Distance Education: Exploring the Experiences of Distant Pre-service Teacher Trainees with Special Needs. *SASE 43RD Annual International Conference, 28 - 30 September: Richards Bay.*
- **Olaniran, S.O., Duma, M.A.N., & Nzima, D.R. (2016)** Learning to Teach Science Subjects by Distance: Exploring the Issues and Challenges in Pre-service Teacher Education by Distance. *Early Childhood Development Conference, Faculty of Education Sciences, North West University, Potchefstroom Campus: 10-13 October.*

- **Olaniran, S.O.** (2016) Access and Use of Science Practical Equipments among Pre-service Teacher Trainees in ODL based Universities. *12th International Conference on Teaching, Education and Learning (ICTEL)* Nov 25-26, Mauritius.
- **Olaniran, Sunday O., Duma, M.A.N., & Nzima, D.R.** (2016). Availability, Access and Utilization of E-resources among Pre-service Teacher Trainees by Distance. *8th International IEEE Conference on Technology for Education (T4E2016)*, Indian Institute of Technology (IIT) Bombay, Mumbai India: 2 – 4 December.
- **Olaniran, S. O.** (2016). Investigating Challenges in Utilizing E-learning Resources among Pre-service Teacher Trainees by Distance. *IEEE Teaching, Assessment, and Learning in Engineering Conference (TALE 2016)*, Bangkok Thailand: 7- 9 December.

Peer-reviewed publications

- **Olaniran, S. O., Duma, M. A. N., & Nzima, D. R.** (2016). Availability, access and utilization of e-resources among pre-service teacher trainees by distance. In *Technology for Education (T4E)*. Proceedings of the 2016 IEEE Eighth International Conference on Technology for Education (pp.232–235). New York: Institute of Electrical and Electronics Engineers (IEEE). DOI: 10.1109/T4E.2016.056
- **Olaniran, S. O., Duma, M. A. N., & Nzima, D. R.** (2017). Assessing the Utilization Level of E-Learning Resources among ODL Based Pre-Service Teacher Trainees. *Electronic Journal of e-Learning*, 15(5) 385-395 available online at www.ejel.org

1.12 The Structure of the Study

Chapter One focused on the introduction and background to the study. It also captured the statement of the problem, research questions, objectives, scope, the significance of the study, and the structure of the research programme. The chapter also gave a brief justification for selecting the case studies for the research.

Chapter Two dealt with the contextual analysis and theoretical framework for the study by looking at the history and the development of open and distance education in the selected two African countries and also examined the theories and models that are relevant to the study.

Chapter Three dealt with the review of related literature which includes an in-depth analysis of current literature in pre-service teacher education and open and distance learning in terms of content, delivery method, accessibility, support system, outcome and output.

Chapter Four focused on the methodology adopted for the study, research design, and population, sample and sampling techniques.

Chapter Five is devoted to the result of the quantitative data gathered through questionnaires administered among pre-service teacher trainees from the two countries. The results were presented in tables and graphs, followed by short explanations of the results on each table.

Chapter Six revealed the result of the qualitative data gathered through interviews conducted for the academic and support staff members of the ODL based universities selected for the study.

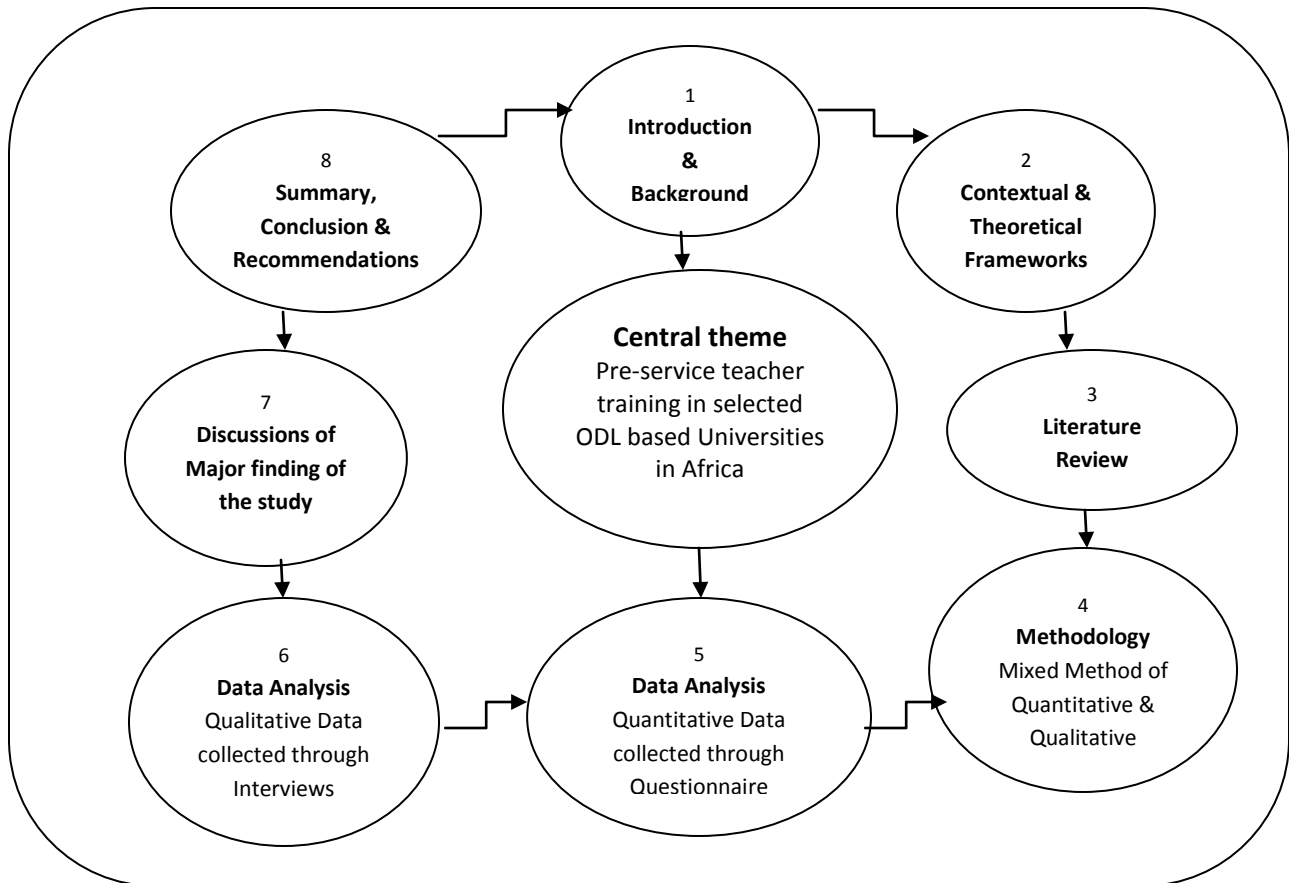
Chapter Seven discussed the major findings from the quantitative and qualitative data collected for the study with detailed discussions of each finding.

Chapter Eight provided the summary of the study, conclusions and recommendations for policy makers and practitioners on the advancement of open and distance education in relating to pre-service teacher training and development in the two countries in particular, and African continent in general.

1.13 Summary

This chapter has provided a general outline of the research study by presenting the opinion of the researcher and previous studies about the pre-service teacher training by distance, and its importance to meeting the demand for teaching workforce. The chapter also highlighted the statement of the problem, research objectives and questions, scope, significance of the study, and contributions to knowledge. The goal of the chapter has been to make known what the previous studies have said as well as the ongoing debate about pre-service teacher training by distance which gave rise to the present study. The chapter also highlighted some ethical considerations which guided the conduct of this study. The next page highlighted the diagrammatical illustration for the study.

Figure 1.1: A pictorial illustration of the order of chapters followed during this study



CHAPTER TWO

SETTING THE STAGE: CONTEXTUAL AND THEORETICAL FRAMEWORKS FOR THE STUDY

The importance of powerful teaching is increasingly vital in contemporary society. Standards for learning are now higher than they have ever been before, as citizens and workers need greater knowledge and skill to survive and succeed. Education is increasingly important to the success of both individuals and nations, and growing evidence demonstrates that—among all educational resources—teachers’ abilities are especially crucial contributors to students’ learning. (Darling-Hammond, 2006:14)

2. 1 Introduction

This chapter provides the settings for the study. It is aimed at clarifying the context to which the study is set as well as providing the theoretical frameworks for the study.

2.2 Context of the Study

Business Dictionary (2016) defines the word ‘context’ to be “background, environment, framework, setting, or situation surrounding an event or occurrence”. Similarly, Plooy-Cilliers, Davis, and Bezuidenhout (2014) described context of the study as the pointer that bring reader into the picture of the study and provide background information such that readers are able to understand what the researcher is trying to achieve through the study. Context is a crucial part of a research that provides the reader with situation or background overview of where an idea or information came from, and what and who is involved (Carlisle, 2013). In other words, context in a study did not just describe the situation and setting, it also reveal the actors or stakeholders

in a given phenomenon or case study, so that the interested reader or researcher will have a clearer and broader picture of the event. Without context, study can be misinterpreted; and with proper contextual description, study can be better understood. Since the study examined pre-service teacher training by distance in the context of South Africa and Nigeria. Effort is made to describe the distance learning institutions as well as the two African countries selected for the study.

2.2.1 Justification for selecting case studies from South Africa and Nigeria

South Africa and Nigeria are two of the prominent countries on the continent of Africa that are using open and distance learning mode to train teachers (Olaniran et al. 2017). Each of the two African countries have one ODL based university, established and funded by the national government, though there are conventional universities in the two countries that are also using open and distance learning for teacher training, both at the initial and professional development stages (Saint & Strassner, 2003; Ojo & Yusuf, 2006; Olakulehin, 2006; Ambe-Uva, 2007; Du Plessis, Marais, Van Schalkwyk & Weeks, 2010; Kazeem & Ige, 2010; Dachaba & Mokhele, 2012; Olaniran, Duma & Nzima, 2016). Furthermore, the Faculty of education of the two selected ODL based universities was chosen because the study is examining the training of pre-service teachers through open and distance learning mode, and the case cannot be considered without the context, the main Faculties that are involved in the training of teachers in the two selected the open and distance learning based universities. In other words, it would have been impossible for the researcher to have a true picture of how student teachers by distance are being trained and how their training transfer into practice without considering the context within which it occurred.

Furthermore, the research used multiple case study design which enabled better understanding of how the training of pre-service teachers are conducted in the selected ODL based universities and how their training transfer into classroom practice. There are expectations that the selected universities would reflect some similarities and differences in terms of technologies, pedagogy, content, support services available and challenges being encountered by the student and staff.

Moreover, this study explored the training of pre-service teachers in selected African countries because literatures (Shah, 2005; Herman & Pillay, 2007; St. Pierre, 2012; Ajayi & Osalusi, 2013) has confirmed the existence of a ‘wide gap to be filled’ in the distance teacher education being offered in most of the African countries, including South Africa and Nigeria, in terms of the quality, assessment, and output of the graduates being produced. Therefore, a study of this nature helps to understand the dynamics, challenges and opportunities that exist between/within the two universities and nations for knowledge sharing.

2.3 Open and distance learning in South Africa

The thriving of open and distance learning in South Africa could be traced back to the year 1946 when the University of South Africa (UNISA) was established. Pityana (2007) note that while London University was recognized to be the first University in the world to offer degree programmes by distance learning, the University of South Africa is the largest open and distance learning institution on the continent of Africa. Initially, UNISA combined the promotion of its own courses with those of some overseas correspondence colleges (Biao, 2012). This means that while people were able to enroll for and obtain the University of South Africa (UNISA) degrees

and diplomas, opportunities were also given to candidates to acquire degrees and diplomas of selected foreign correspondence institutions through UNISA.

It is noteworthy, however, that during the apartheid regime, the government of South Africa was faced with the challenge of transforming its higher education system in order to increase access to education for the nation's black citizens who represent a majority of the country's population, but are disadvantaged in terms of attending and graduating from university (Daves, Goh, Malcolm & Uhl, 2004). One possible solution to this is the development of open and distance education, and its expansion to reach those individuals who, due to limitations of time, finance, or distance, cannot afford to attend conventional colleges or universities.

In addition to increasing access to tertiary education for many, some policy makers and educators were of the opinions that open and distance education will increase the number of skilled individuals in teaching, technology, and business sectors, thereby decrease the country's skills gap, and contribute to the growth and development of the economy.

Similarly, scholars like Bosman and Frost (1996) are of the opinion that distance education is one of the good things that has happened to South African educational sector as it has afforded the low-income citizens and busy executives the opportunities of getting education. Distance education is also more cost effective than full time study and allows learners to work while they study. Distance education also creates avenue for the enrollment of large numbers of participants. These factors, according to Bosman and Frost (1996) are of vital importance to the new group of tertiary level students in South Africa.

It is also noteworthy that the operation/delivery of Open and Distance Education in South African Institutions is hinged on the belief of access which was one of the prioritized points in

the policy for the provision of distance education in South African Universities as set out in the Schedule as policy in terms of section 3 of the Higher Education Act, 101 of 1997 (DHET, 2014). According to the policy document, access is not meaningful unless it offers a reasonable chance of success and therefore the quality assurance of distance education provision and attention to improving retention, pass rates and output remain critical.

The key provisions of this policy statement, according to the Department of Higher Education and Training (DHET, 2014) are:

- a. Access to educational provision to significantly larger numbers of students, through shifting patterns of expenditure to achieve economies of scale by amortizing identified costs (particularly investments in course design and development and in effective administrative systems) over time and large student numbers and even across providers. Providing a system wide definition for what constitutes distance education provision.
- b. Supporting well-managed growth in quality distance education provision, including in institutions other than UNISA.
- c. Ensuring that distance education provides not only opportunities for access but also a reasonable chance of success.
- d. Ensuring that distance education provision is funded based on empirical evidence of relative costs of different modes of provision.
- e. Strengthening capacity to evaluate distance education provision and hence to regulate who can offer accredited distance programmes.
- f. Promoting the development and use of Open Educational Resources (OERs)

- g. Creating an enabling environment for appropriate integration of ICT to enhance distance education provision in both public and private universities as well as other post-schooling institutions.

Similarly, the policy framework for distance education in South Africa as stated in DHET (2014) further highlighted the roles of distance education in the South African university system to be the following:

- i. Providing access to students for whom - either because of work commitments, personal social circumstances, geographical distance, or poor quality or inadequate prior learning experiences, traditional, full-time contact education opportunities are either inappropriate or inaccessible. Distance education can increase the flexibility of provision in structure, duration and timing but programmes need to be designed appropriately for different purposes and target audiences.
- ii. Seeking to expand
- iii. Providing low enrolment niche programmes that have a high impact and are required by small numbers of students across the country, for example in nanotechnology. The rationale for offering such programmes, and the nature of the provision, will need to be carefully scrutinized and agreed to in enrolment planning and programme accreditation procedures as part of a national PQM planning strategy. Very stringent criteria in terms of the national interest should be formulated.
- iv. Offering outstanding modules for students at contact institutions who require one or two modules to complete the necessary requirements for proceeding to their next year of study, or to complete their qualifications.

- v. Along with all other provision, distance education should find improved ways to recognize prior learning (RPL) as a part of this opening of access and to guide students into appropriate learning pathways without the necessity of always starting a new programme from the beginning.

The period between 1996 and 2007 was permeated with a number of deep change processes at the University of South Africa (Herman & Pillay, 2010). The change was caused by both the internal and external factors, namely the national policy and the institutional restructuring.

Herman and Pillay note three prominent processes of the institution (UNISA) at the period (i.e. between 1996 and 2007). The first process comprised a move away from discipline- based to programme-based provision of teacher education. In this first major restructuring experience, the seven discipline-based departments were integrated into four programme-based departments, namely: Educational Studies, Further Teacher Education, Primary School Teacher Education and Secondary School Teacher Education. Up to this level, IPET, which later became the Postgraduate Certificate in Education (PGCE), was offered through the Higher Diploma in Education (HDE). It is also important to note the various Bachelor of Education (B.Ed.) programmes which were established in 1996, and the first intake of Bachelor of Education students in the University of South Africa (UNISA) occurred in 1997.

2.3.1 Pre-service teacher education by distance in South African Universities

In South Africa, pre-service teacher education by distance learning is largely provided by the University of South Africa (UNISA), a publicly funded ODL based university in the country (Olaniran, Duma & Nzima, 2016). However, apart from the teacher training programme of UNISA which is purely by distance, some of the classroom based universities in the country also run distance learning courses to train teachers. Most of these conventional traditional universities created autonomous units/centres to manage their distance learning programmes. Details of these institutions and their operational structures are discussed below.

2.3.1.1 University of South Africa (UNISA)

Open and distance education has played a key role in the development of higher education sector in South Africa since the establishment of the first open and distance learning based institution and the oldest and largest university in South Africa – the University of South Africa UNISA (Daves, Goh, Malcolm & Uhl, 2004).

University of South Africa (UNISA)’s history can be traced back to year 1873 when it was established as the University of the Cape of Good Hope (Nicolau & Pretorius, 2016). However, in the year 1918, the institution became a Federal university and in 1946 took the lead when it became one of the world’s first public universities to teach exclusively by means of distance education (UNISA, 2013). University of South Africa (UNISA) is currently the largest tertiary education provider in the Republic of South Africa, enrolling approximately forty percent (40%) of South African university students (RSA, 2014; Makhanya, 2017).

At the initial stage of UNISA, learners receive notes for lectures by post and return their written responses by post as well. However, this form of teaching-learning engagement later received criticism from educators that the method focuses on teaching than on learning and that it encourage students to learn to pass examination, rather than to acquire knowledge and competencies required to be effective in the work place (Bosman & Frost, 1996). The institution later introduced a new model which incorporates the provision of learners' support system through a variety of instruments, which includes audio-visual and computer-mediated learning system (Department of Education, 2001).

Furthermore, Daves et al (2004) attributes the rapid development of distance education in South Africa to four primarily factors. They are:

- Developments in Information and Communication Technology (ICT) which give rooms for diverse modes of delivery;
- The need for better and cost-efficiency means to deal with rising enrolment rate of learners without having to increase the number of staff or build more infrastructure;
- Competition posed by the private higher education providers, and
- The government's commitment and stand that open and distance education has a fundamental role to play in widening access, diversifying the system of education in South Africa, and enhancing the quality of training in different sectors of the economy.

UNISA has a long and respected history in teacher education by distance, both in South Africa and on the African continent (Makhanya, 2015). The College of Education of UNISA is responsible for the initial professional education and training of close to 50% of all teachers in South Africa (UNISA, 2017). The College is initiating relevant teacher education programmes aimed at strengthening the education sector of the country and the continent at large. The main

focus of the school is on all the major disciplines in the school curriculum and the Further Education and Training phase with a particular focus on language education, mathematics, science, inclusive education, technology and environmental education, teacher education, early childhood development, curriculum studies and instruction, educational foundations and school leadership and management (UNISA, 2017).

2.3.1.2 Conventional universities with teacher training by distance programmes in South Africa

Apart from UNISA which operates mainly by distance, some of the conventional universities in South Africa also run teacher training programmes by distance. Prominent among them are the Universities of Pretoria, Free State and North West (Olaniran, Duma & Nzima, 2016).

The University of Pretoria (UP) has a unit for distance education which runs Bachelor of Education Honours (B.Ed. Hons) as well as the professional development training programme targeted at both pre-service and in-service teachers with the aim bringing university education closer to the door-step of people without them leaving their homes or workplaces. The university's distance education programmes reaches thousands of learners who are mostly teachers that are improving their qualifications. It is noteworthy that the university management gives strong supports to progressive education projects like this across the university and a yearly university-wide plan for innovative teaching and learning engagements are usually drawn to give spotlight on the potential areas. Moreover, the unit dedicated for distance education of the institution is helping to uphold quality in school system through various capacity building training programmes for the in-service teachers, particularly in subjects such as Mathematics,

Technology and the Natural Sciences. The unit uses a variety of instructional delivery methods and incorporate television, radio, and the internet to expand learning beyond the classroom.

Similarly, North West University operates a unit for open and distance education with study centres across the country and a separate study centre in a nearby SADC country - Namibia. The unit for open and distance learning of the North West University enables the in-service teachers to study towards advancing their careers and gaining higher qualifications. Some of the training programmes available in the unit include; Bachelor of Education Honors (Bed, Hon), Advanced Certificate in Teaching (ACT), Diploma in Grade R Teaching, Advanced Diploma in Education, among others. The purpose of these teaching qualifications is to develop teachers who can demonstrate general education competencies and principles as well as focused skills and knowledge in different subject areas of need in South African schools. As part of the qualification, learners are expected to gain extensive experience in applying the knowledge and skills gained while working with schools during the practice teaching exercise.

The University of the Free State, on the other hand, operates a distinct campus devoted to Open and Distance Education. The South Campus which serves as the main hub for the open and distance education programmes was incorporated into the university in the year 2004 (UFS UV, 2013). One of the main roles of the campus is to draw new students with lower level of skills and education to gain access to university education through distance learning for an enhanced socio-economic status. The campus offered opportunities to different categories of learners to gain access to Further Education and Training (FET), and Higher Education level. Furthermore, the open and distance education centre located in the South Campus of the university also serves as the learning hub for thousands of students who are not able to study on campus or on full time basis due to a variety of limitations such as financial constraints, geographical location, or one

occupation/ engagement or the other. However, the successes being recorded in the open and distance education of the institution is made possible through the use of online technology and broadcast platforms.

2.3.1.3 The programme, structure and operational overview of ITE in South African ODL based Institutions

Initial teacher education programmes by distance in South Africa cover mostly Bachelor of Education, Post-Graduate Certificate in Education (PGCE) as well as other professional certification like National Professional Diploma in Education (NPDE), and Advanced Certificate in Teaching (ACT).

The Bachelor of Education (B. Ed) programme is structured to meet the needs of the community and those of the Department of Education by producing competent teaching force for the nation in all phases of education (DHET, 2014).

The document reviewed shows that, for Bachelor of Education (B. Ed) programmes, a candidate is usually admitted if she/he has obtained a grade 12 National Senior Certificate (NSC), and passes in English and a First language. Moreover, candidates with evidence of teaching experience in early childhood foundation phase may qualify for recognition of prior learning (RPL), for which they may earn up to 60 credits. Some candidates with prior experience are also granted conditional exception from the Matriculation Board, and allowed to enrol for the Bachelor of Education directly. For Post Graduate Certificate in Education, a candidate who have obtained degree from other disciplines like Sciences, Humanities and Arts, Social or

Management Sciences, or Law but wishes to obtain teaching qualification with the purpose of becoming professional classroom teacher is admitted for the programme

2.3.1.4 Teaching practice in ODL based pre-service teacher training in South Africa

Teaching practice exercise is a crucial component of pre-service teacher training programme (Aldridge, Fraser & Ntuli, 2009). The purpose of the teaching practice is to give students the opportunity to practice their teaching skills in the classroom. During the teaching practice, students are expected to imbibe the culture of the schools where they are posted: they are required to be in attendance everyday in their assigned schools during the term. They are also expected to substitute for the regular teacher during the period, often after due orientation and supervision of the regular teachers. Practice teaching exercise is compulsory for all students enrolled for the Bachelor of Education (B.Ed.) degree, Post-Graduate Certificate in Education (PGCE) certificate and Diploma courses targeted at those intending to become classroom teachers, irrespective of the mode of training selected. The practice teaching programme is structured and monitored by the professional practice unit of the School of Education.

Pre-service teacher trainees, in most of the ODL based universities, are expected to register for the teaching practice courses as they are advancing in their academic modules and years, exactly the particular year in which the subject didactics course is taken. Teaching practice for pre-service teachers in most of the institutions includes five weeks of compulsory practical training every year.

2.4 The emergence of open and distance education in Nigeria

The beginning of open and distance education in Nigeria could be traced to the correspondence education as a means of preparing candidates for General Certificate in Education, a prerequisites for the London Matriculation Examination (Aderinoye & Ojokheta, 2004). Omolewa cited in Aderionye and Ojokheta (2004) notes that several Nigerians, among them Eyo-Ita and Davies, were early beneficiaries of distance education which they used to pass the London Matriculation Examination. Later, Ajayi and Ikoku both obtained University of London degrees in philosophy in 1927 and 1929, respectively, while Ogunlesi obtained a degree in Philosophy in 1933. Access to such educational opportunities at a distance contributed immensely to these individual's productivity, which in turn accounted for the innovations they subsequently demonstrated in their teaching methodology at the St Andrew's Teachers College, Oyo (Aderinoye, 1995).

Apart from these individuals, a significant number of early educated fellows in Nigeria were products of the British correspondence education system until the establishment of the first Nigerian university, the University College Ibadan (now the University of Ibadan) in 1948 which gave wider access to hundreds of indigenous Nigerians to acquire university education through distance learning, facilitated by the Department of Adult Education of the institution. Also worthy of note was the indigenous distance learning programme called the 'English by Radio programme' of the Nigeria Broadcasting Corporation that followed independence in 1960. The programme was primarily targeted at primary and secondary school levels and covered core courses at both levels with more emphasis placed on the teaching and learning of Science, Mathematics and English (Ajadi, Salawu & Adeoye, 2008). The introduction of external degree programmes by the University of Ibadan inspired other universities in Nigeria to introduce

distance learning programmes under different names. At the University of Lagos, in 1973, a distance education unit was established under the name “Correspondence and Open Studies Unit”. As distance education developed this name was later changed to “Correspondence and Open Studies Institute” in 1983. In 1997, for the first time at the University of Lagos, the name of the Correspondence and Open Studies Institute was changed to “Distance Learning Institute” (Obilade, 2012).

Today, several Institutions in Nigeria now offer open and distance education with the aim of enabling busy individuals in the society to have access to educational opportunities. These institutions include National Teachers Institute (NTI), National Open University of Nigeria (NOUN), Distance Learning Centre (DLC) of the University of Ibadan, Correspondence and Open Studies Unit (now called Distance Learning Institute) of the University of Lagos. Apart from the operations of the National Open University of Nigeria (NOUN) and National Teachers Institute (NTI) which were purely by distance, majority of Nigerian conventional universities also runs distance learning programmes. In fact, many of them created autonomous centres to manage operations.

The External Degree Programme (EDP), which later became the Centre for External Studies (CES) and today is called the Distance Learning Centre (DLC), was established by the University of Ibadan authority in 1988 and placed under the Department of Adult Education to provide opportunities for in-service teachers to improve their skills and knowledge through on-the-job training. The Department of Adult Education embarked on many activities which thrived and it soon became the envy of the entire university (Omolewa, 2014). One of such activities was the floating of Distance Learning Programmes which enabled thousands of working teachers to have access to professional development training. This in-service training enabled them to

subsequently raise their status from holders of Nigeria Certificate in Education (NCE) to full-fledged university bachelor degree holders.

Similarly, the Correspondence and Open Studies Unit (COSU) now called Distance Learning Institute, was established in 1974 by the University of Lagos to produce university graduates in teaching and nursing qualifications. The Institute's philosophy is premised on the belief that University education should be accessible to all desiring Nigerians and foreigners, employed and unemployed in consonance with the University of Lagos 1967 Act as amended.

Ekiti State University (formerly known as the University of Ado Ekiti), Nigeria is also prominent in operating distance education programmes. The Institute of Education of the university, which was established in 1987, is saddled with the responsibilities of running Distance learning studies, also known as sandwich programmes. The University later established its Directorate of External programme in 2005 as a further step to combine and strengthen various ODL programmes which include; sandwich, affiliation, and part-time degree programmes (Akomolafe, 2006). To offer similar programme, the University of Abuja established its Centre for Distance Learning and Continuing Education in 1992. It is noteworthy that these distance learning centres introduced training programmes for both pre-service and in-service teachers to cater for the educational well-being of the nation.

Also noteworthy was the conscious efforts by the Federal Government of Nigeria to use the distance education mode to advance the quality of primary school teachers in the country. The National Teacher Institute, regarded as the first independent distance learning based institution, was officially founded in 1978 to upgrade unqualified teachers working in the nation's primary schools and accelerate the preparation of qualified teachers needed for the implementation of the

UPE programme introduced in 1976 and the UBE programme introduced in 1999 (Ambe-Uva, 2007). Although, the undeveloped structure of the print technology, the inefficient postal system and the unfamiliarity with the concept of study centres world over then nearly crippled the operation of the National Teacher Institute (Jegede, 2002), the effort of the institution cannot be over-emphasized in raising the bar of the open and distance learning system in Nigeria. Over a period of eight years after the establishment, the institution contributed immensely to the production of capable teaching force for the nation in the early 80s till late 90s. Although, the National Teacher Institute (NTI) is still operating professional teacher training programmes by distance in the country till today, the establishment and operation of the National Open University of Nigeria (NOUN) as the full-fledged distance learning university in the country is more noted.

2.4.1 Conventional Universities in Nigeria with Open and Distance Learning Programmes

2.4.1.1 University of Ibadan Distance Learning Centre

Established in the year 1948, the University of Ibadan (UI) is known as premier and first university to be established in Nigeria. The university, at the initial stage, was an affiliated University of London's College, but later gained full autonomy in the year 1962 (Omole & Sarumi, 2002). The University of Ibadan is founded with the aim of making education accessible and available to all (THE, 2014). It is with this goal that the university established Distance Learning Centre in 1972 to widen access to higher education in the country. The thought of introducing open and distance education within the University of Ibadan was conceived by the Department of Adult Education of the institution in 1972 (Owoeye, 2004). The proposal for the

commencement of the various programmes was presented to the Senate of the University in 1976 (UIDLC, 2016).

Egbokhare (2006) note the vision of the University of Ibadan in establishing Distance Learning Institute to be to enlarge the frontiers of knowledge and bring about transformation in the country through motivation.

Egbokhare further highlights the following objectives as the driving force of the University of Ibadan distance learning education programme:

- To fill the gap for the need of capacity building and skilled personnel in the country by developing learning programmes of global standards in different areas of national needs;
- To deliver highly skilled programmes with a view to promoting employment generation and productivity;
- To foster partnership with communities and corporate organizations, including private sector, so as to create pathway for quality and globally competitive education;
- To establish partnership with reputable international institutions/organizations in order to enable Nigerians to have access to global educational products;
- To align with the global education philosophy by positioning the University of Ibadan as a ready exporter of sound knowledge and intellectual resources;
- To position the University as the primary centre for learning resources in the continent of Africa; and
- To create platform for global networking/cooperation, harmony and understanding using education as instrument.

It is, however, worthy of note that, being a distance learning centre that operates within a conventional university, the same programmes being undertaken by the campus based full-time students are the ones offered to distance learners, majorly those whose access to formal education is constrained by one factor or the other. The only difference is distance learning programmes are designed primarily to meet the education needs of individuals in the working class, whose distance, working schedules, financial situation and other circumstances may not allow them to pursue full-time university education.

2.4.1.2 Pre-service teacher training at the DLC of the University of Ibadan

According to the Nigerian National Policy on Education, the aim of teacher education is towards “the encouragement of the spirit of enquiry and creativity in teachers, and providing them with the intellectual and professional background that will be adequate for their assignments and also make them adaptable to changing situations” (FME, National Policy on Education, 2004 p.14). The University of Ibadan Distance Learning Centre, through the Faculty of Education of the institution, is contributing to the realization of this goal through its teacher education programmes targeted at those who could not enrol for the traditional classroom based teacher education in conventional universities due to one constraint or the other. Though the centre was not established primarily to be a teacher training Institute, One of its fundamental functions was training and development of teaching manpower the Nation by offering different academics and professional education programme to both the incoming and in-service teachers.

The teacher training programme by distance of the centre became well-known in the country as a result of the wide capacity of teaching and support staff, and her graduates were later established in various elementary and high schools, especially in the southern parts of the country.

The initial teacher training programme of the centre started in the year 1988 with courses from Adult Education Department and two other departments, Teacher Education and Guidance and Counselling (UIDLC, 2016). Other departments of the institution that also joined in the year 1993 are Library Science, Special Education, Physical and Health Education, and Educational Management. These departments teamed up under the Institute of Education to offer initial teacher education courses leading to the award of the Bachelor of Education (B. Ed) degree, as well as the Post-Graduate Diploma in Education (PGDE). The pre-service teacher trainees by distance are usually given study-packs to study at their convenience, correspond with their facilitators from time to time for further guidance and clarifications on their studies.

2.4.1.3 Teaching Practice

Teaching practice is a crucial component of pre-service teacher training which gives opportunities to teacher training to put into practice the knowledge and skills acquired during training. Usually the teaching practice is organized for students by the 3rd year. This implies that teacher-trainees would have been exposed to two or three years of instruction in pedagogy as well as the content of their specialist areas. The duration of the teaching practice is usually twelve weeks when the trainees are posted to schools for some practical orientations in teaching. During the teaching practice, students are expected to imbibe the culture of the schools where they are posted: they are required to be in attendance everyday in their assigned schools during the term. They are also expected to substitute for the regular teacher during the period, often after due orientation and supervision of the regular teachers. The principals, vice principals and regular teachers play significant roles in support of teaching practice while faculty members undertake the supervision and assessment of trainees (student-teachers). The school involvement

is limited because they do not grade but only ensure conformity with the scheme of work. Students are also expected to prepare lesson plans for every lesson for which they are responsible, based on the format given earlier during an orientation. The lesson plans are made available to the faculty supervisor during supervision. As for supervision, a faculty supervisor serves as an advisor to the student, providing support for teaching practice. S/he observes, supervises, comments on, critiques, commends and sometimes condemns the student's efforts. It is expected that after teaching practice exposure, trainees are able to acquire practical knowledge needed to jump-start them into the teaching profession.

2.4.2 National Open University of Nigeria and pre-service teacher training

National Open University of Nigeria (NOUN) is the only government established and funded ODL based university in the country. NOUN is also the country's largest tertiary institution in terms of the number of students at the time of this study. The institution was established based on the fact that majority of Nigerians are yet to be reached and may not be reached if nothing is done to reach them through education (Ambe-Uva, 2007).

The National Open University of Nigeria (NOUN) was initially established on 22nd July 1983 as catalyst for open and distance learning in Nigeria. The institution is designed to increase the access of all Nigerians to formal and non-formal education in a manner convenient to their circumstances. Apart from being a hub for the mass production of teaching force for the country, the institution also caters for the continuous educational development of professionals such as Bankers, Accountants, Medical Doctors, Lawyers, Engineers, and Entrepreneurs. The university, since its inception in 1983, prepares both pre-service and professional teachers in teacher

education as well as researchers through the distance-learning programme. The school of education has its mission to provide qualitative, functional and cost effective teacher education programmes through Open and Distance Learning mode. The school intends to realize the mission through the following:

- Provision of wider access to professional training in the field of education generally in an open distance learning environment;
- Provision of flexible but qualitative programmes in teacher education and allied disciplines.
- Enhancement of professional ethics by laying emphasis on both national and international codes of conduct for education personnel;
- Integration of information technology media in the provision of programmes in teacher education and allied disciplines.
- Embarking on training and retraining of those in the field of education, with a view to enhancing their productivity;
- Provision of opportunities for academic and professional growth of those in the education profession;
- Provision of programmes that will produce highly motivated, conscientious and efficient class-room teachers, educational managers and evaluators at all levels of educational systems;
- Provision of opportunities for acquisition of professional training to the less privileged and those with special needs; and
- Development of the spirit of enquiry, creativity and hard work in the students, teachers, educational administrators, evaluators and research workers.

Teaching and learning methodology in National Open University of Nigeria (NOUN) is conducted through specially designed audio-visual materials including radio, television broadcast CDROM, Internet complimented by face-to-face interaction. To make learning easier at NOUN, network of study centers were established across the six geo-political zones in the country to provide excellent and quality student oriented learning and support services. The initial teacher education programme of the National Open University of Nigeria was designed to give access to young people and adults, who are constrained by space, time, and finance or employment status but with high passion for teaching profession to undergo initial teacher education and training programme of the institution with the aim of becoming professional classroom teachers.

2.4.2.1 Structure

At undergraduate level, the National Open University of Nigeria, through the School of Education, offers programmes leading to the award of Bachelor of Education (B.Ed.), Bachelor of Arts Education (BA. Ed.), and Bachelor of Science Education (BSc. Ed). The programmes are being offered in line with one of the university objectives of providing educational programmes that will produce highly motivated, conscientious and efficient class-room teachers, educational managers and evaluators at all levels of educational systems in the country.

2.4.2.1 Selection of candidates

To be admitted into the initial teacher education programme in NOUN, a candidate must have a minimum of five credits (which must include English Language and Mathematics) either at General Certificate of Education (GCE) 'O' Level in West African Examination Council

(WAEC), National Examination Council (NECO) or National Business and Technical Examination Board (NABTEB).Candidate with Teachers' Grade II certificate with a minimum of five merits as well as a candidate with National Certificate in Education (NCE) can be admitted into 200 Level. The institution also considers some mature students with significant level of work experience for admission. During the selection process, the institution also assess the level of capabilities of students in terms of competence in key skills such as literacy, numeracy, Information and Communication Technology (ICT), among others, which Eurydice (2011) describes as essential skills that must be possessed at advanced level by the prospective student teachers,

2.4.2.3 Selection of instructors

In most countries of the world, including Nigeria, teacher instructors' profiles are extremely important and are keenly looked into before appointed to facilitate the budding teachers. Fisher (2008) view teacher instructors as teacher educators who provide formal instruction for teacher trainees or conduct research and development activities that educates and improves the professional practice of prospective and practicing teachers. To qualify as teacher instructor, possessing highest qualification is mandatory.

In Nigeria, for instance, the minimum qualification required to teach in the university is a Master's degree. Though, qualifications required of university teacher educators are the same as those required of other academic teaching staff (a master's and PhD degree), it is required for teacher educators to have a teaching qualification themselves to be able to teach others to become teachers. National Open University of Nigeria (NOUN) also follows similar procedure in recruiting their teacher educators to facilitate in the School of Education. Teacher educators

working in specific areas and settings (e.g. school mentoring, monitoring and evaluation, and induction) are often expected to track record of specific training, supervision, publications and professional experience.

2.5 Theoretical Framework

2.5.1 Introduction

Theory in a study or research provides a systematic direction upon which the research can be guided. Neuman (2011) views theoretical framework as a theoretical system with assumptions, concepts and specific social speculations. In other words, a theoretical framework could be seen as a compilation of interconnected concepts that dictates what things to measure and what numerical relationships in a study to look for. Similarly, Welman, Kruger, and Mitchell (2005) note a theory to be an embodiment of statements that identify the affiliations between variables with a view to clarifying issues or phenomena.

Theories and models in a research study are used to guide the quest for answers to research questions as to how, what, and why things are occurring (Shikongo, 2010). Therefore, theoretical frameworks are important in a study to provide the background for review of literature, study design, data collection, data analysis, and discussions of the studies' findings.

Several studies have been carried out on Open and Distance Education in Africa and across the globe to show its importance in producing manpower for different sectors of the economy, including the teaching profession (Engelbrecht, 2003; Robinson & Latchem, 2003; Aderinoye & Ojokheta, 2004; Wilson, 2005; Perraton, 2005; Bloom, Canning, & Chan, 2006; Kwapong, 2007).

A study that intends to look at the training of pre-service teachers in open and distance learning based institutions in Africa should be established on specific theories. To understand the pedagogical suitability of using open distance education to train pre-service teachers, it is important to look at different theories that impact on teaching and learning through this mode. Just like the traditional classroom learning, open and distance education is a concept that is expected to cover the teaching and learning activities in the affective, cognitive and psychomotor domains of an individual learner. Though it is learning activities by distance and can be carried out anywhere and at any time, it must be both qualitative and quantitative, while also taking into consideration the differences in learners' social and psychological states. Theories are important because they help us to explain and predict behaviour in a particular context (Tynan, 2013).

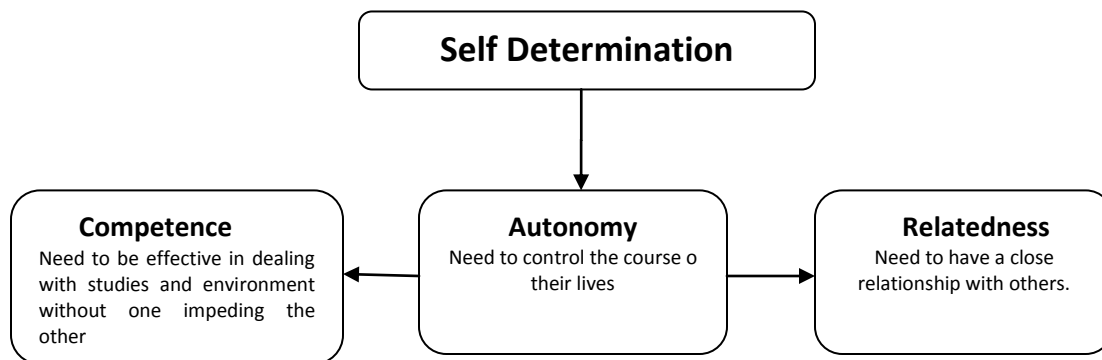
This section gives a detailed discussion of specific theories that are relevant to open and distance education, especially in connection with teacher training and professional development. These theories are used to help provide a guide and basis for expanding the frontier of research on teacher training by distance. For several decades, scholars have worked on different theories that have had major impact teaching and learning engagement at a distance. Few of these theories are discussed below with special attention being paid to their relevance to this study.

2.5.2 Self determination theory

Self-determination theory, as developed by Vansteenkiste (2004) is one of the most relevant theories to open and distance education today. The theory emphasizes the function of autonomous study motivation in learners by distance. The word 'autonomy' here means that learners' motivation depends solely on the degree of freedom they have on their studies and how

well they are able to express such freedom. This freedom, according to Vansteenkiste, is promoted by choice, participation/inclusion in the processes of learning, acknowledgment of the learner's emotions and feelings, which can be both positive and negative, and recognition of learners' individual differences and learning disabilities.

Fig 2.1 Self Determination Theory in Distance Learners



Source: what is Self Determination Theory: Adapted from (Tran 2014)

The figure above clearly shows the three main inborn psychological needs of a learner as projected by self determination theory which are competence, autonomy and relatedness. Facilitators in open and distance learning and other self-regulated learning programmes must pay attention to these needs. Moreover, findings by Crooks (2005) have shown that learning engagements which allow the learners the most freedom in terms of time to study, choice of material to study, and inclusion of learners in the programme structure tend to have the maximum impact on student retention.

2.5.3 Transformational learning theory

John Mezirow developed transformative learning theory to describe how learners read, confirm, and reformulate the meaning of their learning experience (Kitchenham, 2008). Transformational learning proves that for learners to change their beliefs, feelings, and emotional reactions. Transformational learners take on critical reflection on their experiences, which in turn paves way for a perspective transformation. In other words, the meaning schemes that create meaning formation may change as learners add to or integrate ideas within an existing scheme which generally occurs through consistent and deliberate learning. Basically, this process, as illustrated in the diagram below, dictates three learning bearings in learners, namely instructional, distributed and social interaction.

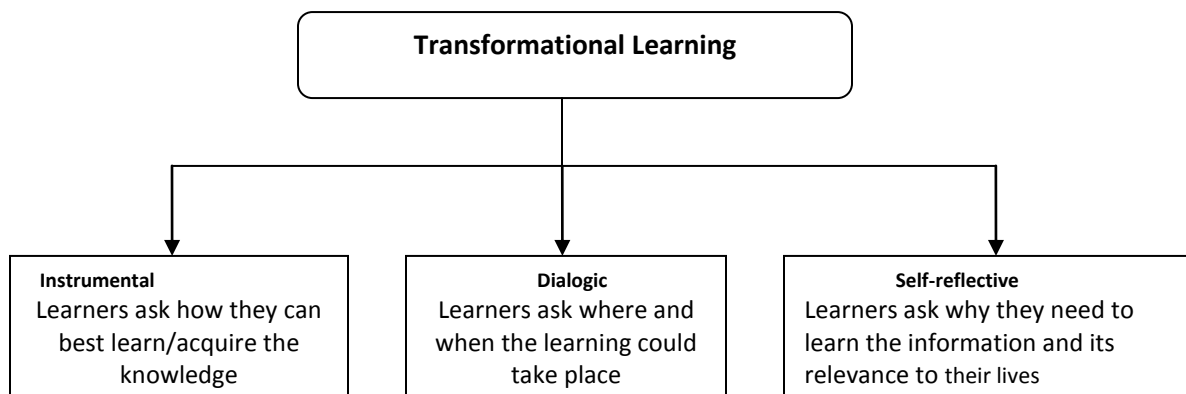


Figure 2.2: Transformational learning illustrated

In summary, the essence of transformational learning is to aid the learner to become a more independent thinker by learning to bargain his or her own principles, meanings, and ideas, rather than uncritically relying on the ideas and formulations of others.

2.5.3.1 Instructional learning

Instructional learning offers open and clear direction on how to better guide individuals to learn and develop. The major concern of instructional learning is on how to structure material for the educational well-being of people, particularly young people. It is, however, imperative to state the difference between the learning theory and instructional learning theory. While the learning theory depicts how learning takes place in individuals, instructional theory suggests the way to better help people learn (Reigeluth, 1999). One interesting thing about the instructional learning theory is its ability to recognize what teaching and learning activities should be like. It outlines techniques that teachers and teacher educators can adopt to achieve the overall goals and objectives of learning engagement. Instructional learning is tailored based on the learning manner of the learners.

Similarly, instructional learning embraces all related phases of learning. According to Caine (2011, p.7) these include:

- The selection of teaching strategies;
- Dealing with learner states of mind;
- Notions of classroom management and a good classroom climate;
- The instructor's view of learning objectives and outcomes;
- Modes of assessment;
- The use of time;
- The role of technology; and
- The way of connecting with the larger community.

Moreover, studies (Austin et al, 2001, and Kihlstrom, 2015) have shown that how well a learner learns depends in part on his or her state of mind. That knowledge is reflected in the learner's behaviour, but the paramount thing is that learning revolutionizes the learner's pool of knowledge.

2.5.3.2 Distributed learning

Distributed learning is a type of learning that allows facilitators, learners, and content to be situated in different, non-centralized settings so that teaching and learning can take place independently, irrespective of time and place. Theory of distributed learning as put forward by Lave and Wenger (1991) established that the environment has a major influence on cognitive behaviour of learners. They argue that learning is a function of the environment in which it is situated. In other words, learning occurs as one becomes more lively and engaged in an area of practice. Similarly, Oblinger and Maruyama (1996) notes that Distributed learning approach is based on learners' need as it allows learners and facilitators to enter learning environment at the same time. This is true of the learners in open and distance learning programmes as the mode of learning enables them to choose when to meet, learn and respond to certain exercises at a particular point in time.

However, Oblinger and Maruyana further identified the following distributed learning issues to be dealt with by facilitators and providers of open and distance learning programmes:

- *Issue of access:* There is currently a greater demand for educational services in many institutions, especially the ODL based, even more than what the current infrastructure can provide. This order is expected to continue as the society becomes more industrialized

and knowledge-driven. It is expected of the institutions offering open and distance learning to give access not just to any form of education but a qualitative one which is capable of preparing individuals for societal engagements and challenges.

- *Issue of productivity:* The recent global economic recession has really caused major declining in budgets and increasing enrolments in higher education. Every individual, both skilled and unskilled, is looking for a way or the other to upgrade him/herself with professional education and training. Open and distance Learning institutions, therefore, must device new ways to achieve its teaching mission and goals, such that their programmes meet the demands and challenges of this knowledge driven economy.
- *Quality.* Every institution of higher learning takes pride in both its learners and faculty members and always moves towards enhancing quality rather than diminish it in the pursuit of efficiency. Keeping high standards in the present knowledge economy will require painstaking efforts and attention to the institution's academic and social values. This keenness to both access and community are apparent and provide a foundation on which to strengthen the culture of quality.

2.5.3.3 Social interaction

Social interaction framework is based on the assumption that individual mental processes have their origin in social interaction. This theory looks into the connections between people and the cultural setting in which they act and interact in shared experiences since it has been proved that one of the main obstacles of learning in open distance education is lack of interaction (Tynan, 2013). In the absence of a lecture based instruction where the facilitator's role is to motivate

learners to learn, distance learners tend to rely on their peers for motivation and collaborations. The need for relationship brings learners and facilitators together to form meaningful social network. When this happens, learners can feel that they are in control of their activity of learning through collaborative engagement with others. Kukulsa-Hulme and Traxler (2005) notes that effective distance learning is the one with clear-cut platforms, where learners can access relevant information while studying collaboratively. Koole (2009) also reiterate the importance of social interaction as it provides enhanced cognitive environment in which distance learners can interact with their facilitators, their course materials, their physical and virtual environment, as well as other authorities in their learning engagements. Similarly, Siemens (2004) posits that learning and knowledge are resident in the diversity of contributions and opinions. As a result, learners must be allowed to network with each other, to examine others' opinions and perceptions to issues, and to share their perceptions about their world.

2.5.4 Transactional distance

This is one of the theoretical submissions that have provided a richer understanding of the learner at a distance. The backbone of this theory, as developed by Moore (1990) is that distance is not determined by geography but by the connection that exists between dialogue and structure. Moore's theory of transactional distance argues that distance exists in all educational engagements, be it formal, informal or non-formal. This is determined by the amount of dialogue that occurs between the learner and the instructor, and the amount of structure that exists in the design of the course. Education offers a continuum of transactions from less distant, where there is greater interaction and less structure, to more distant, where there may be less interaction and more structure. This explanation of Moore on the transactional distance theory clarifies the

distinctions between conventional and distance learning programmes because of the variety of transactions that occur between teachers and learners in both settings.

2.5.5 The Humanism

The humanism theory is the result of the works done by the humanism psychologists while investigating what makes human beings act in a certain way that is different from animal. The humanism psychology movement which was pioneered by Carl Rogers began in the 1950s (Olaniyi, 2014). The humanism theory states that human beings are unique in the classifications of animal and that the natural human tendency is to aim towards love, goodness, creativity, happiness and fulfilment (Pityana, 2004). The concepts of free will and drive are the two major legs that the humanism theory stands on. The theory emphasizes the point that humans, unlike animal, have free will or freedom to choose. This could, for instance, be the reason why some learners choose to enrol in open and distance education, over the conventional school system. In other words, learner's choice in learning by distance is generally based on reasons that are very clear and convincing to them.

The drive concept comes in when the choice has already been made by a learner. For instance, if a matured learner chooses to enrol in a teacher training programme by distance, they first of all seek information on the enrolment, the cost implications, available resources/materials to learn, the grading and assessment system and the suitability of time/time-table to their daily schedules of jobs or other societal engagements. This is clearly a link between free will and drive.

Olaniyi (2014) further highlighted some basic principles of humanism theory to learning engagements. These include:

Learning by Choice: The idea of freedom of choice is derived from the concept of free will and choice. It advocates for the learners-centered approach to learning which prioritizes the liberty of learners to choose the course they wish to study and how they think is best to learn over what and how the facilitator or institution thinks is the best way to pass the learning across to the learners.

Learning situation devoid of threats: Another core principle brought forward by the humanist psychologists is that of learning situation without threat. Learners easily develop fear and fatigue when the learning activities involve threats and humiliation. This is particularly true for matured learners with pre-learning social and economic responsibilities. The principle here states that learners must be allowed to express their minds freely in open and loving learning environment. In summary, learners perform best in emotionally supportive environment rather than threatening environments.

Recognition of prior- learning experiences in learners: Majority of learners in open and distance education programmes come to learning engagement with both social and professional experiences that are vast. The principle of recognition of prior learning experiences in learners states that for learning to be enhanced, learning programme should enable learners to apply their prior-knowledge and experience as they make attempt to acquire new knowledge and ideas.

Active and timely participation: Active participation of learners is a key to successful and sustaining learning activities. This principle encourages learners to seek to participate actively in the planning, design, implementation, assessment and evaluation of their learning engagements at all times. This promotes participatory learning that involves ongoing interactions between facilitators and learners instead of the learning activity that is passive.

Self-evaluation of learner: This principle states that learning is enhanced when learners are allowed to critique themselves, the structure of learning, context, contents and curriculum as well as the evaluation procedures. The kind of evaluation being emphasized here also involves the evaluation of the evaluators as well as the learning institution which will go a long way in determining the capacity and capability of a learning programme, the learners and the providers in driving home the overall goals and objectives of a learning programme.

Growth and self-actualization: According to this principle, an individual's greatest desire in learning is to grow and reach a desired self-actualization stage. For this to happen, environmental and cultural hindrances can act as propeller for an individual to succeed. This is why the learning engagements must be vast and rich in nature to prepare the learners ready for the society.

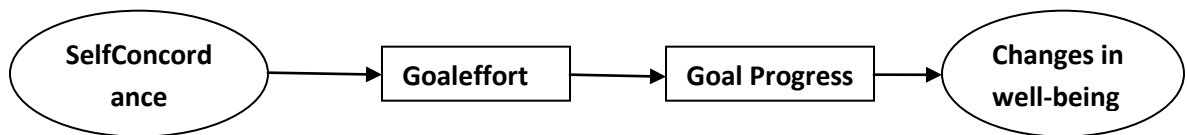
Self esteem: This is one of the core principles to be considered while planning or designing a learning programme for matured people. According to this principle, a learning engagement is meaningful and productive when the activities involved by learners are able to boost their self confidence, gain the real sense of who they really are, and prepare them for real-life situation and challenges.

2.5.6 Self concordance

Self concordance theory, as developed by Vasalampi, Salmela-Aro, & Nurmi (2009) suggests that, individuals should be allowed and encouraged to pursue goals that they feel best fit with their personal and professional interests and values. The theory encourage the facilitators and providers of open and distance education to ensure that learners are not compelled to choose a particular course of study or mode of study but to give the will to choose to the learners and also

to create circumstances which support the learners' choices. The theory portrays matured learners as those who already have personal goals that are chosen for autonomous reasons which enhance their goal-directed efforts.

Fig 2.3: Personal goals as it affects individual learners



Adapted from Visser, (2012) Self Concordance Theory

Moreover, Simpson (2008) notes the four major factors that inform the goal effort of matured learners. These include:

- *External*: i.e. driven by outside forces
- *Introjected*: which make a learner to act in order to avoid guilt and anxiety
- *Identified*: which prompts a learner to act based on their subscription to the underlining values of the activity, and
- *Intrinsic*: i.e. learner being driven by pleasure and curiosity.

Furthermore, Kasser & Ryan (2011) suggest that identifying both extrinsic and intrinsic motivations of learners are possibly more useful in promoting successful teaching and learning engagements.

2.6 How the theories informed the study

This study was guided by a blend of theoretical frameworks that addressed the operation of open and distance education in the context of lifelong learning. There is no single theory that explains how adults in distance learning programme learn, the same way there is no one theory that explains all activities that constitutes human learning (Cercone, 2008). However, there are existing theories which gives direction and provide frameworks to underpin new studies. The theory of self-determination which emphasizes the function of autonomous studies motivation in learning promotes freedom and choice which are part of the fundamental factors that influences the choice of mode of learning among the pre-service teachers by distance.

Social interaction theory talks about the social domain of learners and the significant effects it has on their learning processes and capacities. The intention to use Social interaction theory was informed by one of the objectives of the study which aimed at finding out the motivation to enrol for teacher training by distance. The theory is applicable to this study in the sense that most students who prefer studying by distance are influenced by their social and economic status. This also corroborates the study by Thomas (2001) who discovered that five out of six learners in open and distance learning programmes worldwide are engaged with one form of social/occupational engagement or the other and would not be able to attend conventional school settings for learning.

In a similar vein, transactional distance theory addressed the issue of dialogue and structure as what describes the distance in learning rather than the geographical location of the learners and the learning institution. The theory is relevant to this study by establishing the fact that the effectiveness and efficiency of any teaching and learning activity is not determined mainly by the mode of studies but the distance that exists between all educational relationships, i.e. ‘the amount

of dialogue that occurs between the learner and the instructor, and the amount of structure that exists in the design of the course’.

Self concordance and humanism theories talked about choice, free-will and freedom as what constitutes the major indices in any self-regulated learning environment. The theory is quite relevant to the study because it spur out those key factors that inform the decision of the majority of learners in the open and distance learning based pre-service teacher training.

2.7 Summary

This chapter gave a broad overview of the contextual and theoretical frameworks that guide this study. Contextual frameworks gave a comprehensive overview of the two ODL based universities selected for the study. The review of the contextual framework revealed similarities and differences in the operation and delivery of open and distance education for teacher training in the two universities and countries.

The theories reviewed provides a broad framework for learning engagements in open and distance learning setting and are very relevant to the study, and have been applied in similar studies which looked into open and distance education globally (Simpson, 2008; Cercone, 2008; White, 2009; Kumar, 2014) .

The next chapter (three) will present the review of relevant literature for this study.

CHAPTER THREE

LITERATURE REVIEW

“Teachers are vital. Unless we can get more teachers, and better teachers, we will not reach the target of making quality education available for all..... But there are still world shortages of teachers, still large numbers of under-qualified teachers, and still many who need further professional education and training as they work. Conventional approaches to teacher education have not met all the demands upon the profession and this has led to an interest in open and distance learning alternatives” (UNESCO 2002:7).

3.1 Introduction

The previous chapter examined the context and relevant theories that provided the foundation used as a guide for this study. The purpose of this chapter is to review previous literature on the subject matter. The review of relevant literature is important in order to widen the focus of knowledge and be able to make inferences and assumptions. Essentially, this chapter will serve as a veritable link between previous studies and the current one. It is aimed at providing a critical evolution of existing literature with the objective of demonstrating the relevance of the current study as a contribution to existing knowledge. The literature review for this study, therefore, focuses on the dominant themes of this study such as open and distance learning, teacher education and training, pre-service teacher education by distance, content knowledge and pedagogical content knowledge of teachers, and technologies in distance education.

3.2 Open and distance learning

The concept of Open and Distance Learning' (ODL) is not new in the field of education. Several studies have been conducted to show its relevance to the field of teacher education (Jung, 2001; Dladla & Moon, 2002; Bof, 2004; Aderinoye & Ojokheta, 2004; Moon, Leach, & Stevens, 2005; Anderson, 2005; Thorsteinsson & Page, 2008; Robinson, 2008, Wheeler & Wheeler, 2009; Wright, 2010; Simonson, Smaldino, Albright, & Zvacek, 2014). The terminologies and language used to describe distance learning activities varies (Alkali, 2006). Among the popularly used terms related to open and distance education are external studies, home study, online education, technology-based or mediated education, continuing education, correspondence education, distance learning, self-instruction, adult education, independent study, learner-centered education, open learning, open access, flexible learning, and distributed learning. The California Distance Learning Project (2005) traced the origin of open and distance education to mid-19th century Europe and the United States. The beginners of open distance learning used the available technology of their day - the postal system, to open learning opportunities to people who wanted to learn but were not able to attend conventional schools. Individuals who most benefited from such correspondence education included those with physical disabilities, women who were not allowed to enrol in educational institutions open only to men, people who had jobs during normal school hours, and those who lived in remote regions where schools did not exist (CDLP, 2005).

Fred (2001) notes that early distance education courses employed first and second generation communication technologies. First generation (1850s -1960) was predominantly one technology and consisted of print, radio, and television. As new media emerged such as radio and television, these new technologies were integrated into distance education delivery methods. Second

generation (1960-1985) distance learning courses utilized multiple technologies without computers. The media used to deliver distance education within the second generation included audiocassettes, television, videocassettes, fax, and print. The establishment of the British Open University in the year 1969 marked a significant development in the operation and delivery of distance education by offering a mixed-media approach to distance learning technologies. Learning materials such as text, audio and visuals were sent to students by mail and supported by broadcast radio and television (Matthews, 1999). Multiple technologies including computers and computer networking make up the third generation (1985-1995) technologies used for distance education delivery (Sherron & Boettcher, 1997). Fourth generation technologies, the current generation, combines previous media but also incorporates high-bandwidth computer technologies including desktop, videoconferencing, two-way interactive real-time audio and video, web-based media. Each new generation of distance learning technologies increases opportunities for student-to-student and faculty-to-student contact and collaboration (Fred, 2001).

Alkali (2006) states that the elementary explanation of 'open' is to give access to; make accessible or available as for use of; to render accessible to knowledge and enlightenment. Thus, open and distance learning have clear-cut measures that promote extensive access and involvement in education. On the other hand, the Commonwealth of Learning (2003) sees open and distance learning as a system where learners are physically separated from the facilitators and learning provider, and where emailing, faxing, video conferencing, and telephoning becomes the dominant means of communication.

On the issue of learners' separation from the institution and facilitators, however, Pityana (2007) caution that course materials must be designed with the consciousness that the learner may be utilizing the material in isolation from classroom or other learners. There is need therefore for learner to receive the learning material in a clear form that is easy to use and enable him/her to interact creatively with the material. In other words, the language of the materials must be legible and simple. Every technical expression and terminologies must be carefully explained and illustrated with diagram or picture, if possible.

Furthermore, Bates (1997) views open and distance education as an educational engagement that provides learning in a flexible manner, built around geographical, social and time constraints of individual learners, rather than those of educational institution. Similarly, open and distance learning, according to Shebani and Okebukola (2001) is an approach to education which seeks to remove all unnecessary barriers to learning, while aiming to provide learners with a reasonable chance of success in an education and training system centred on their specific needs and located in multiple arena of learning. It is of interest to note that recent studies (Tuomi, 2013; Lockwood, 2013; Harry & John, 2013; Susan, 2014; Singh, 2015; Inkelaar & Simpson, 2015; Roy, 2015; Edu, Sule & Nsor, 2016; Nyerere, 2016; Kilinc et al, 2016; Ogunlade, Joshua, & Olumorin, 2016; Modesto & Gregoriose, 2016; Kabir, 2017) has revealed open and distance education as a learning engagement that removes traditional barriers to formal education be it age, location, poverty, gender, status, race, work, and so on. In essence, open learning is meant to open the doors of education to people for whom the doors of formal learning was formally closed (Alkali, 2006). It is an educational practice which supports —the production, use and reuse of high quality open educational resources through institutional policies, which promote innovative

pedagogical models, and respect and empower learners as co-producers on their lifelong learning path (ICDE, 2010).

Reinforcing the aforementioned views, Ajadi, Salawu and Adeoye (2008, p.3) submits that open and distance education is:

a system of education characterized by physical separation between the teacher and the learner in which instruction is delivered through a variety of media including print and other ICTs to learner who may either have missed the opportunity earlier in life or have been denied the face-to-face formal education due to socio-economic, career, family and other circumstances.

Alkali (2006, p.4) further describes open and distance education as follows:

Such systems are designed to open the doors of learning opportunities to people for whom the doors of formal learning was formally closed. They are intended to allow access to wider sections of adult population, to enable students to compensate for lost opportunities in the past to acquire new skills, knowledge and qualifications for the future. Open learning system aims to redress social or educational inequalities and to offer opportunities not provided by conventional colleges or universities.

Also, Dhanarajan (2001) notes open and distance education to be the means by which the teacher is taken literally to the learner and as a unique form of teaching and learning process where students are separated from the teachers by a physical distance which is often bridged by communications technologies. Similarly, Perraton (2001) also view it as an educational programme in which a major proportion of the teaching and learning is conducted by an individual who is removed in space and time from the learner.

One fundamental attribute of open and distance education is that of its learner-centeredness which employs a wide range of tools to effect learning outcomes among the learners irrespective of their locations and status. These tools are aided by technology and are designed for self-learning. These tools, according to Anderson (2005) include radio and television broadcasts,

audio and video tapes, home kits and individualized counselling and feedback through telephone, facsimiles or electronic mail. Open and distance education can therefore be described as a combination of distance teaching plus distance learning with the aid of technology.

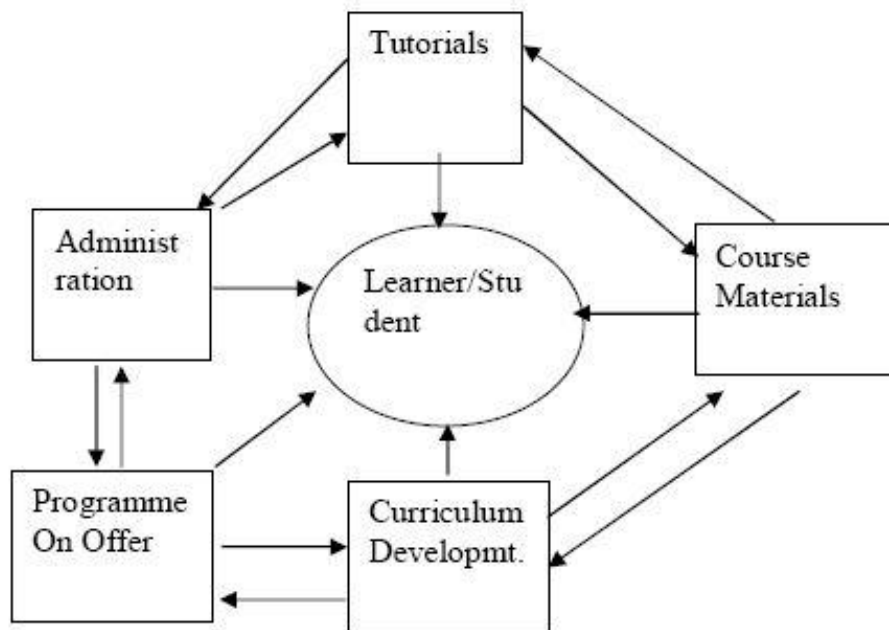
The concept of ‘Open Learning’ on the other hand, refers to the philosophical framework that attempts to take away barriers and obstacles that may thwart learners from gaining access to quality education and succeeding in lifelong learning engagement (Ojo & Olakulehin, 2006). The Commonwealth of learning (2010) gives the following as unique features of a credible open and distance learning programme:

- Clear separation of the learner and the facilitator in time or place.
- Guarantees of the institutional accreditation; that is, learning programme is certified or accredited by recognised bodies or institutions empowered to do so in a given society or country.
- The teaching-learning process engages the use of multi-media approach, including television and radio broadcasts, video and audio CD Rom, computer-mediated learning and telecommunications.
- There is a clear-cut two-way communication that enables facilitators and learners to interact which is quite different from the passive delivery of broadcast signal to learners.
- There is also a possibility of occasional physical meetings that allows learner to learner and learners to facilitators interactions
- There is presence of library to study, both physical and virtual based, as well as laboratory for practical sessions.

- There are administrative staff members that offer constant support services and receive feedback from learners, and tasks are assigned to various administrative and academic staff members who work together in course development teams.

Furthermore, Barikor (2003) conceptualizes open education as an elastic concept of learning in which decisions about learning are taken by the learner themselves rather than the facilitators, as to whether, what, how and when to learn. A simple description of this is illustrated in the figure below.

Fig 3.1 The Learners' centeredness of Open and Distance Education



Source: Onwe (2011) “Overview of ODL Systems”.

Unlike the conventional institutions which have some forms of rigidity in terms learning programmes, space, and time, open and distance institutions places the convenience of the learners over the programme planning, space, time, as well as who to appoint to facilitate what.

3.3 Key players in open and distance education

Although technology plays a very important role in the delivery of open and distance education, it is not as important as the people who drive it to work. Effective Open and Distance Learning programme doesn't happen spontaneously but through the hard work, committed and dedicated efforts of many individuals who constitute the programme team. Willis (2000) identifies the key players in open and distance education and their important roles. These includes

3.3.1 Learners/Students

The goal of open and distance learning programme anywhere will not be realized if there are no learners that show interest in the programme. In other words, learners are the primary recipients of open and distance education. One interesting thing about most distance learners is their prior knowledge and wealth of experience which they bring to the learning situation. Meeting the educational needs of learners is the basis of every effective open and distance education programme. Irrespective of the learning context and contents, the primary responsibility of the learner in open and distance education is to learn. This goes beyond reading to memorize or attending online classes alone but also involves effective planning, and an ability to explore and apply the learning content being taught beyond the classroom setting. Aytekin et al (2004) viewed the role of students in an ODL environment as both difficult and crucial to the success of

the study programme. One important thing that the providers and facilitators of open and distance education should take note of is that when learning is delivered at a distance, several challenges are experienced by learners who are frequently separated from others sharing their backgrounds and interests. Most distance learners have little time to interact live with facilitators and peers, and must rely on technical linkages to bridge the gap separating class participants.

3.3.2 Faculty

The success of any distance education effort rests squarely on the shoulders of the faculty, who are also called facilitators (Olaniran et al. 2017). In a distance learning setting, the instructor's responsibility includes assembling course content and developing an understanding of student needs. Special challenges confront those teaching at a distance. For example, the instructor must:

- Develop an understanding of the characteristics and needs of distant students with little first-hand experience and limited, if any, face-to-face contact.
- Adapt teaching styles taking into consideration the needs and expectations of multiple, often diverse, audiences.
- Develop a working understanding of delivery technology, while remaining focused on their teaching role.
- Function effectively as a skilled facilitator as well as content provider.

Similarly, Koul and Dzvimbo (2005) highlight the major characteristics of effective open and distance learning facilitators as follows:

- Must have vast content knowledge and pedagogical content knowledge on the subject area. This is required so that the facilitator will be able to answer difficult questions

pertaining to the subject, analyse and unravel issues related to specific subject where the tutor has limited knowledge about the subject issue.

- Must be able to picture the needs and the challenges of different categories of learners, and determine to go a long way in finding solutions to them.
- Must maintain scheduled time with the learners for meaningful interactions, with the aim of keeping track of the progress being made on their learning. This is necessary because learners can be discouraged if they are nobody to interact with whenever they are facing pressing challenges, and this can lead to learners discontinuing the learning.
- Must be constant to give feedbacks to learners on their performances pertaining to assignments, test or examinations, as well clarifying issues related to course materials.
- Must be ready to counsel and mentor the learners with a view to bringing the best out of them, both in their studies and the career they are building.
- Must be knowledgeable about the vision, mission, and objectives of institution running the ODL programme. The facilitator is expected to serve as the primary source of information on the matter related to institutional guidelines and policies, admission process, student registration, examination, among others.

3.3.3 Support Staff

Support staff efforts are very important to the success of any open and distance education programme and ensure that the details and materials required by learners and facilitators for programme success are made available accordingly. Most successful open and distance education programmes combine support staff functions to include registration of students,

materials distribution, textbook ordering, processing examination reports, managing technical tools and resources, among others.

Support staff members are also expected to play important role in managing information and communication activities among the learners, especially in providing feedback to learners when needed and also making online based content available on the website where the learners can easily have access to it. With a good support system available to learners, the sense of isolation can be reduced. Another reason for an efficient support system is that learners must have an assurance in the effective management of their programme, such that they are confident that enquiries are attended to in reasonable time, that facilitators respond to telephone calls and messages, that test and assignment scripts are graded accordingly, that examinations are adequately planned and well conducted and results published in a timely manner (Pityana, 2007).

3.3.4 Administrators

Administrators are also part of the engine that drives open and distance education to work. Though, they are typically prominent in planning and designing open and distance education programmes for institutions, they often hand over the control of the programme to technical staff and managers once the programme is running. Effective open and distance education administrators are more than individuals with ideas. They are decision makers, and way pavers. They work closely with technical/technology and support service staff to ensure that information and technological resources are effectively made available to further the institution's academic mission. Most importantly, they maintain an academic focus, realizing that meeting the instructional needs of distant students is their ultimate responsibility.

3.4 The levels or classifications of distance education

Onwe (2014) classifies open and distance learning into four different categories or levels. These are distance learning programme, distance learning unit, distance learning institution, and distance learning consortia.

3.4.1 Distance learning programme

These are distance learning activities carried out in conventional institutions such as college, university, or training department with primary mandate of operating as traditional classroom based learning firm. For example, today people talks about the teacher training by distance in the University of Ibadan Nigeria, project management training by distance of the University of Cape Town in South Africa, among others.

3.4.2 Distance learning unit

Distance learning units or departments are special and separate units established within conventional colleges, universities, or school system that is devoted to running distance learning programmes with distinct administrative and support staff members that works solely for the centre or unit. Examples of this are found in many African countries e.g. Distance learning centre of the University of Ibadan in Nigeria, Open and distance learning unit of the University of Pretoria in South Africa, among others.

3.4.3 Distance learning based institutions

The main purpose of distance learning based institutions is to run learning programmes that are purely by distance. Unlike conventional institutions that built classrooms with the expectations of welcoming students on campus, open and distance learning based institutions have no business with building physical classrooms because they are suppose to meet the educational needs of diverse groups of learners who are not physically present in the institution. Instead, open and distance learning based institutions pay attention to building strong virtual learning spaces like virtual classroom, library and laboratories where their learners have access to the same learning services that are available to their counterparts in conventional institutions. I it also important to note that such institutions usually have Faculty and support staff members whose duties, skills and responsibilities are quite different from their counterparts at a traditional institution. Examples of this are the National Teachers Institute (NTI) in Kaduna Nigeria, National Open University of Nigeria (NOUN), and the University of South Africa (UNISA) which are purely open and distance learning based.

3.4.4 Distance Learning Consortia

Open and distance learning consortia usually consist of two or more distance learning units or institutions who share the same the same design or delivery of programmes together, or both. Distances learning consortia's programmes or courses are always run based on the belief or practices of the parent institution.

3.5 Pre- service teacher education

Pre-service teacher education is seen as the education and training provided to student teachers before they have undertaken any teaching (Mashau, 2012). Topics that are common in pre-service teacher training include classroom management, teaching practice, lesson plans, curriculum development, and professional development. Pre-service teacher education, also known as initial teacher education (ITE) is the initial crucial stage in a teacher's professional adventure. This stage builds the foundations of a professional frame of mind and provides the new teacher with a basic knowledge and skills to make meaningful learning happen in the classroom.

Mulalo (1992, p.9) note the following as what the pre-service teacher education or training offers:

- It provides the student teachers with sound knowledge and academic background in education and subject specialization;
- It prepares the student teachers ready for professional career in teaching. This involves a variety of issues which are necessary for them to know for them to be able to fulfil their duties and obligations as professional teachers;
- It creates platforms for the acquisition of teaching skills, pedagogical content knowledge and techniques through micro teaching, observation and periods of teaching practice in schools; and
- It helps the student teachers develops the appropriate etiquette, beliefs, attitudes and social orientation considered necessary for professional teachers.

Similarly, Caena (2004) view initial education programme as one that offers the opportunity for budding teachers to test what it means to teach in the reality of the school within a ‘safe’ and supported setting where they can converse, reflect, share ideas or experiences with peers and experts. One of the crucial topics of consideration during such educational engagement is the practicum where the pre-service teacher is attached to a school setting either at elementary or high school level. During this practicum exercise, also known as teaching practice, pre-service teachers are given opportunities to develop their skills through lesson plans, teaching observation and classroom management. However, it is important to note that lesson plans, teaching practice and classroom management are not enough for training qualitative teachers. Thus, pre-service teacher training should include exposure of student teachers to policy documents on education, education administration, structure of teaching-learning in schools, and diversity of teachers and learners. These will go a long way in developing the capacity of the budding teachers to be able to handle the varieties of circumstances that may arise in the course of their duties. Initial teacher education programme also helps student teachers to develop dispositions to learn, to relearn and to unlearn, and adjusting to specific conditions and needs as required in the teaching profession.

Moreover, the National Council for Teacher Education (NCTE, 1998) views teacher education to mean the entire formal and non-formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession or to discharge his duties and responsibilities more effectively

Bransford et al (2005) views pre-service teacher education programmes as educational engagements aimed at preparing learners to become quality teachers equipped with pedagogical content knowledge and practices that will serve to meet the increasing demands associated with

the teaching profession. Moreover, initial teacher education is seen as a comprehensive experience that requires teacher trainees to be both learners and teachers at the same time – being guided in the process, especially in learning how to teach, and supporting school pupils in how to learn. Pre-service teacher training is intellectually engaging as it demands for analysing, investigating and reviewing ideas in the context of classroom practice (Caena, 2004).

A 21st century teacher need not only subject knowledge, they also need a wide range of attitudes and skills that his/her learners need to develop and be self sustained. Such skills include communication and collaboration skills, problem solving ability and competencies, critical thinking, ability to think creatively and innovatively, as well as positive attitudes towards learning. Furthermore, European Commission (2013) highlighted some core competence requirements that all teachers must possess and these competences are expected to be acquired during their initial teacher education experiences. These competences include:

- sound knowledge frameworks (e.g. about school curricula, education theories, assessment), supported by effective knowledge management strategies;
- a deep knowledge of how to teach specific subjects, connected with digital competences and students' learning;
- classroom teaching/management skills and strategies;
- interpersonal, reflective and research skills, for cooperative work in schools as professional communities of practice;
- critical attitudes towards their own professional actions, based on sources of different kinds – students' outcomes, theory and professional dialogue – to engage in innovation;
- positive attitudes to continuous professional development, collaboration, diversity and inclusion; and

- the capability of adapting plans and practices to contexts and students' needs

Hattie (2003) also notes that teachers are widely recognized in the research world as the most important determinants of pupil achievement. As the world is changing due to globalization and advancement in technologies so is the school changing and what we mean by teaching and learning changing as well. The implication of this is that the teacher-student relationship is becoming more complex and demanding than ever before. Therefore, teacher education curriculum must be active enough to keep addressing and accommodating the changes and dynamics of this 21st century classrooms.

The International Literature Review of Teacher Education for Inclusion published by the European Agency for Development in Special Needs Education (EADSNE, 2010) provided a clear overview of the expected outcome of pre-service education programme in the lives of the recipients of such educational engagement. The report states that teachers have a substantial role to play in preparing learners to take their place in society and in the world of work. This framework also points out that teachers in particular need the skills necessary to:

- Identify the specific needs of each individual learner, and respond to them by deploying a wide range of teaching strategies;
- Support the development of young people into fully autonomous lifelong learners;
- Help young people to acquire the competences needed to be responsive citizens of their societies;
- Work in multicultural settings (including an understanding of the value of diversity, and respect for difference);
- Work in close collaboration with colleagues, parents and the wider community;

- Possess pedagogical skills as well as specialist knowledge of their subjects;
- Have access to effective early career support programmes at the start of their career;
- Have sufficient incentives throughout their careers to review their learning needs and to acquire new knowledge, skills and competence;
- Be able to teach key competences and to teach effectively in heterogeneous classes; – Engage in reflective practice and research; and
- Be autonomous learners in their own career-long professional development.

Furthermore, Ensor (2000) identified a rift between teacher education and classroom teaching, with student teachers not being able to put into practice the knowledge they acquire during teacher training. Ensor identifies three crucial stages which initial teacher education programmes must expose recipients to. These stages include transmission of knowledge to student teachers by teacher trainers, the acquisition of knowledge by student teachers, and the transmission of knowledge by these student teachers in school settings, especially via the applicable platforms such as classroom, laboratory and playing field.

Moreover, Darling-Hammond and Bransford (2005) asserts that teacher education should be concerned with who (teacher educator), to whom (student teacher), what (content) and how (teaching technique). In other words, how effective a teacher education programme would be is dependent upon the quality of teacher educators. The quality of pedagogical content in teacher education programmes and their effective use for the purpose of preparing student teachers for the tasks ahead of them depend largely on the professional capability of teacher education facilitators who are also known as teacher educators and the methods in which it is utilized for strengthening the teacher education programme.

Silverman (2007) also note that most pre-service teachers are of the opinion that teaching is merely a set of detached skills learned in an easy way and that they will be adequately equipped to teach once they are told what to do. Based on this notion, Silverman, therefore, suggests that teacher educators should design different approaches to pre-service teacher training that build confidence in gradual but clear ways so as to produce effective and responsive teachers with firm beliefs and passion in the profession.

Steinweg et al. (2005) in their findings sees no significant difference between conventional and online presentation of courses and says this could further make available strong indications for policy-makers and administrators regarding development of future courses via open and distance learning mode. Similarly, Bartolo (2010) emphasized the use of web-based training and suggests that e-learning, while not an easy option, can provide an alternative access strategy and focus on learner-directed learning.

Perraton, Creed and Robinson (2002) submit that teacher education generally includes four elements:

- Improving the general educational background of the trainee teachers;
- increasing their knowledge and understanding of the subjects they are to teach;
- pedagogy and understanding of children and learning; and
- the development of practical skills and competences.

According to the United Nations Education and Scientific Organization (UNESCO, 2005), teacher education “addresses environmental, social, and economic contexts to create locally relevant and culturally appropriate teacher education programmes for both pre-service and in-service teachers.”

The organization further affirms that

Institutions of teacher education fulfil vital roles in the global education community; they have the potential to bring changes within educational systems that will shape the knowledge and skills of future generations. Often, education is described as the great hope for creating a more sustainable future; teacher-education institutions serve as key change agents in transforming education and society, so such a future is possible. Not only do teacher-education institutions educate new teachers, they update the knowledge and skills of in-service teachers, create teacher-education curriculum, provide professional development for practicing teachers, contribute to textbooks, consult with local schools, and often provide expert opinion to regional and national ministries of education. Institutions of teacher education also perform similar services for school principals who have significant impact on what occurs in schools. Because of this broad influence in curriculum design and implementation, as well as policy setting within educational institutions, faculty members of teacher-education institutions are perfectly poised to promote education for sustainable development (ESD). By working with the administrations and faculties of teacher education institutions, governments can bring about systematic, economically effective change.” (UNESCO, 2005, p. 11)

Kilpatrick in Darling-Hammond (2006) posits that teacher education encompasses teaching skills, sound pedagogical theory and professional skills.

Teaching skills: Includes providing training and practice in the different techniques, approaches and strategies that would help the teachers to plan and impart instruction, provide appropriate reinforcement and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials and communication skills.

Pedagogical theory: Includes the philosophical, sociological and psychological considerations that would enable the teachers to have a sound basis for practicing the teaching skills in the classroom. The theory is stage specific and is based on the needs and requirements that are characteristic of that stage.

Professional skills: Include the techniques, strategies and approaches that would help teachers to grow in the profession and also work towards the growth of the profession. They includes soft skills, counselling skills, interpersonal skills, computer skills, information retrieving and management skills and above all lifelong learning skills.

Moreover, research by Darling-Hammond (2006), and Hagger and McIntyre (2006) suggest some crucial factors to consider for effective pre-service teacher education to happen. These factors include:

(a) a comprehensive and structured teaching practice exercise with different learning opportunities, including informal work-based learning to enhance student teachers' learning development;

(b) direct, structured and sustained, mentoring, with opportunities given to learner for modeling, practice, evaluation, support and feedback, by education professionals who are trained for the task;

(c) A deliberate and individualized focus on student teachers as reflective learners whose experiences, beliefs and concerns should be taken into consideration and discussed during the pre-service teacher education stage, in order to pave way for successful and sustained learning engagement;

(d) Established opportunities for teacher trainees' reflective practice which will enable them to critically examining their own concepts and ideas about teaching against a variety of available sources either by observation of teaching practice in class, debate with peers and experienced colleagues, through research, or through dialogue with teacher educators and mentors;

(e) An integrated pre-service teacher education curriculum that can boost student teachers' critical thinking as well as the teaching and learning capabilities, understanding and research base; and

(f) Effective collaborations between the pre-service teacher education providers and the relevant schools where student teachers observe teaching demonstration, with clear-cut joint responsibilities and established roles for planning, implementing, management, monitoring and evaluation.

Similarly, Darling-Hammond and Bransford (2005) notes these on the nature of teacher education, i.e. how a teacher education programme should be approached for it to be effective and worthwhile:

- Teacher education is an uninterrupted process and its pre-service and in-service components are interconnected and complimentary to each other.
- Teacher education is established on the fact that 'Teachers are made and not born'. This is contrary to the popular assumption of laymen that 'Teachers are born, not made'. Looking at teaching as an art and a science, the teacher has to acquire not only knowledge, but also necessary skills to be able to discharge effectively in the classroom.
- Teacher education programme is large and comprehensive. Apart from pre-service and in-service programmes for teachers, teacher education can also target community development activities like basic literacy promotion for illiterate adults and rural youths, agricultural extension and health promotion.

- Teacher education is ever-evolving and dynamic. In order to prepare teachers to be equipped to face the challenges of the dynamic society, teacher education has to keep abreast of recent developments and trends.
- Helping student teacher observe critically their values and beliefs as they relate to teaching, learning and subject matter in order to form a good habit for teaching which will influence and inspire their learning and their profession is a central task of an effective teacher education programme.
- How far and how effective a teacher education will go lies in its curriculum, design, structure, organization and transaction modes, as well as its appropriateness to solve the peculiar problems facing the society.
- The curriculum of an effective teacher education programme is expected to have a knowledge base which is insightful to the needs of the student teachers and that of the society.

Caena (2014), while corroborating this, identified some characteristics that can sustain an initial teacher education programme. These include:

Consistency of aims and organization: For an initial teacher education programme to be reliable and sustainable, there is need for clearly articulated aims and objectives so that all stakeholders such as facilitators, student teachers, public primary and secondary schools, school educators and others follow the same guiding principles and share a good awareness of the key programme components by providing student teachers with consistent guidance and support in all spheres of their professional practice (Zeichner & Conklin, 2008).

Selection and support of candidates and teacher educators: The condition for selecting candidates into pre-service teacher education programme should be clearly connected with key aims and objectives of the programme.. While considering the entry requirements, good academic performance in subject knowledge should be prioritized as this has been proven to be beneficial to student learning (Goe, 2007). Attitudes to teaching and learning by the prospective student teachers should also be considered. The assessment of student teachers at the end of initial teacher education programme should reflect knowledge about pedagogical practices, contents and environments, as well as professional skills, competencies and attitudes to assist all students learn (European Commission 2012b; Vaillant & Manso, 2013). However, clear distinctions between formative and summative assessment should inform student monitoring throughout initial teacher (Howe, 2006).

In selecting those who will train student teachers, the report by NCATE (2008) and European Commission (2013) proposed it to be based on their profiles and track records of professional practice model in the academic and teaching field, including the capacity for self-assessment related to their students' learning and teaching. In other words, it should be followed up by systematic monitoring of their performance and professional development support.

For internal evaluation, however, Kirby et al (2006) argued for an effective use of a variety of evaluation data at grassroots level is important for guiding programme improvement. decision making can be informed by surveys and interviews of staff and students, case studies, follow-up monitoring of student teachers' induction and retention, and observation of practices involving different institutions and actors A quality feedback loop, recurrently linking internal evaluation, improvement plans and external evaluation can bring further benefits (Harford, et al. 2012).

Going by the above submissions on teacher education, maintaining the view that a teacher must remain a learner during the scope of their service is mandatory. This is because teacher is the most crucial constituent in any educational programme. It is the teacher who leads the responsibilities of implementing educational process at any stage. This shows that it is very important to invest in teacher education, so that the future of a nation is secure. Investment in teaching manpower of any nation begins from the pre-service teacher education and training and such investment is counted by educational researchers as a noble step towards developing all other sectors of the economy.

3.6 Characteristics of open and distance learners

Several studies has been conducted that attempted to ask why learners choose open and distance learning mode over the conventional school system (Diaz & Cartnal, 1999; Richardson, 2000; Johnson, Aragon, Shaik,& Palma-Rivas, 2000; Allen, Bourhis, Burrell, & Mabry, 2002; Allen,Gultekin, 2006; Hannay & Newvine, 2006; Rovai, Ponton, Wighting, & Baker, 2007; Watson, 2008; Neuhauser, 2010, Yee et al, 2016). Most of these studies that look at learners' choice identified demographic characteristics of learners such as age, gender and occupation as major reasons for choosing distance learning.

Pinantoan (2013) also highlighted the following common characteristics of learners in open and distance learning programmes:

Age and additional responsibilities: Majority of the learners in open and distance education are older, hold one form of job or the other that occupy their time, and have family members with social and financial commitments to them. As a result of these responsibilities, open and distance

learning become the best option over the traditional classroom based institutions because of the need to harmonize different quarters of their daily lives which influence each other and their jobs, studies, families and time.

Diversity of learning goals: Open and distance learners have a variety of learning goals or drives for enrolling in distance learning courses. While some learners are interested in obtaining a diploma or degree to get a better job, some take distance learning courses to widen their knowledge and may not really interested in bagging a degree or obtaining a certificate.

Constant support: Majority of the learners in open and distance education are usually isolated since physical contact or interaction with peers and facilitators is absent. Distance learners also feel the lack of instant support of a tutor whose physical presence would have provide instant solution to actual needs and challenges that crop up during study. This is why many of the previous studies advocated for strong and reliable support system and feedback mechanism to ensure that learners in ODL are well informed, and can send/and receive feedbacks.

Constraints: Lack of constant face-to-face lectures, which characterized learning programmes may cause learners to feel discouraged. This may bring a thought of dropping out or wanting to suspend the programme. This is why facilitators and other stakeholders in the distance learning institutions must make provision for virtual based interactive system which can allow learners to interactive among peers as well as with tutors/facilitators.

Technological access: Majority of the distance learners in today's ODL institutions possesses reasonable level of IT skills which can enable them to attend to issues related to teaching, content delivery, feedback mechanisms, among others. In open and distance learning settings, technology are mainly the medium through which information and communication flow. Unless

the facilitators and learners become comfortable with the ICT system of the institution, especially technical delivery system, goals and objectives of a learning programme or institution will not be realized.

3.7 Influence of demographic variables on the choice of distance learning based teacher training

Demographic characteristics are generally viewed as an important factor in behavioural research. In fact, several researches have been conducted globally that shows demographic variables as major factors that influence the choice of distance learning (Sugrue, Rietz, & Hansen, 1999; Roblyer, 1999; Volery & Lord, 2000; Latanich, Nonis, & Hudson, 2001; Dladla & Moon, 2002; Valentine, 2002; Garland & Martin, 2005; Muilenburg & Berge, 2005; Akinsolu, 2005; Wang, Wu, & Wang, 2009, Kim, Kwon, & Cho, 2011). Teo (2001) highlights various categories of demographic characteristics to include: gender, age, educational qualification, occupational status, location or place of residence, among others. Similarly, Business Dictionary (2016) views demographic variables to be socioeconomic characteristics of any population or group that are illustrated statistically such as sex, occupation, level of education, age, marital status, income generating level, religion or belief system, birth rate, death rate, average age at marriage, and average size of a household/family.

Cercone (2008) views the learners in open and distance learning programme as adults and employed the Malcolm Knowles learning theory of andragogy, that is “the art and science of helping adults to learn” to explain the peculiar demographic differences in learning characteristics of adults and children. For instance, many learners that registered for open and

distance learning have prior responsibilities that can obstruct with their learning engagements (e.g., families, social roles, and jobs) and conditions (e.g. transportation, domestic violence, care for children, social club responsibilities, and the need to work and earn an income) that. These matured learners enrolled for educational programmes voluntarily and handle their classes simultaneously with their occupation and family responsibilities.

The demographic variables considered to be of great relevance to this study include age, gender, occupation, marital status, location/residential status, and educational status, among others.

3.11.1 Age

Changes in the biological features take place as individual advances in age. Studies (Luszcz and Bryan, 1998; Grady and Craik, 2000; Kennedy, Mather and Carstensen, 2004; Caplan and Waters, 2005) have also revealed that memory declines as one getting older. Similarly, the influence of age on the choice of distance learning has been investigated by diverse scholars such as: Parker (1999), Liu and Yang (2004), Muilenburg and Berge (2005), Miaohua and Fafen (2006), Ali and Ahmad (2011).

3.11.2 Gender

Different studies have explored issues of gender in the choice of mode of learning between face-to-face and distance learning. For example, Qureshi and Hoppel (1995) found that there are some gender differences in how students feel about computers. Similarly, Harrison and Rainer (1992) found some relationship between gender and level of computer skills, with males more likely to

have better computer skills. Elder et al. (1987) found that females are more likely to experience techno stress (physical and emotional burnout caused by inability to adapt to new technology) in using PCs compared to males. Some studies have found that females reported greater computer anxiety than males (Igbaria and Chakrabarti, 1990; Gilroy and Desai, 1986) while others found no gender differences (Parasuraman and Igbaria, 1990; Howard and Smith, 1986).

3.8 Teaching Practice in Pre-service Teacher Education

Teaching practice is another crucial and integrated aspect of initial teacher education in virtually all institutions of higher learning where teacher education programme is running. The exercise comes with different names such as school practice, teaching practice, teaching observation, school practicum and school internship. Edem (2003) notes that working with learners in schools during practice teaching provide a high degree of emotional connection for both teacher trainees and learners as students-teachers feel themselves grow through the experience and they start to get acclimatized gradually to the classroom teaching culture.

Kumaravadivelu (1999), while emphasizing the importance of teaching practice in teacher education programme, explained what must be the role of teacher trainers by saying

...we ought to help them theorize from practice and practice what they theorize. Pedagogic knowledge, to be of relevance, must emerge from the practice of everyday teaching. It is the practicing teacher who is better placed to produce, understand and apply that kind of knowledge (p.35).

From the assertion above, it is obvious that the teacher trainers are expected to empower student teachers with essential knowledge, attitudes, skills and ability in order for them to become ready, prepared and responsive in the classroom. Student teachers must also be provided with all the

necessary tools for classroom teaching learning engagements so that they may construct their own knowledge and practice.

Similarly, Kumaravadivelu (2003) highlighted the following as objectives of school-based teaching practice:

- To check the level of passion and interest of student teachers about teaching profession;
- To enable student teachers know how the school and classroom works.
- to give platform to teacher trainees to learn from experienced teachers
- to give opportunities to student teachers to have a practical experience of the learners' individual differences, interests, and needs;
- to let student teachers understand the school system as a collective venture that succeed because of a result of the positive interrelationships between its actors and members;
- to expose teacher trainees to school and classroom routines, such as class organising, improvisation and utilization of instructional material, applying classroom management techniques, among others; and
- to help the student teachers establish distinction between academic knowledge and the school reality.

It is noteworthy, however, that during the practice teaching exercise, each student-teacher is supervised and evaluated by a school-based subject mentor as well as a supervisor who must be a faculty member of the teacher training institution (Andabai, 2011). However, teaching practice is often planned with joint effort and supervision of the university and the teacher trainers who carries out regular class observations and gives feedback thereafter to the student teachers in order for them to be able to take care of any deficiency identified by the supervisors during observation.

3.9 The pedagogy and technology in pre-service teacher education by distance

In the classrooms of the most effective teachers, learners from underprivileged backgrounds learn at the same rate as those from the privileged backgrounds. What determines this is the level, depth or mastery of the pedagogical content knowledge of teachers in the classroom. A research conducted by Govindasamy (2002) notes that ‘one of the fundamentals of open and distance education is the need for careful consideration of the underlying pedagogy. The author established that most of the pedagogical techniques that apply to the conventional classroom also apply to open and distance learning.

Open and distance education comes with diverse types of media and technologies are employed to convey education to the learners (Rahman, 2009). There are four media technologies being used in open and distance education today. These are print, audio, video/television, and computer, which are available for teaching and learning purposes. Despite the wide popularity and acceptance of open and distance mode of learning, the quality of teaching and learning activities by distance education has been called to question by many researchers (Harrison 2001, Peat & Helland, 2002). St. Pierre (2012) notes that open and distance learning mode may not be appropriate to train teachers who are to handle activities-based subjects like Physical Health Education (PHE) and laboratory-based science subjects because of the physical/practical exercises involved in the teaching-learning process of such subjects. While Scholars like Alkali (2006) and Biao (2012) supports the use of ODL to train teachers because of the huge number of teachers needed to meet this century educational needs, Mood cited in St. Pierre (2012) submits that training received through distance learning is a second class education and that students who learn through this medium are not receiving the same level of quality education as traditional classroom peers. In order to change this perception about open and distance education, COL

(1997) opine that ODL providers must pay close attention to quality in terms of products, processes, production, delivery systems, and philosophy. Furthermore, St. Pierre (2012) noted that the importance of credibility and quality for open and distance learning degrees must be considered when developing courses and programmes for open and distance learning programmes. In other words, designers and other stakeholders in ODL must be conscious of student and employers' perceptions about the value of distance learning degrees.

Previous studies on teacher education by distance focused on the planning, infrastructure, financing, and policy associated with organizing effective open and distance education programmes for pre-service and in-service teachers. It is important, however, for a study like this to dwell more on the most salient issues in teacher education by distance as they impact the quality of teaching and learning activities, as well as the output of the recipients on the field. Thus, the focus of this study is on instructional/pedagogical techniques that directly shape the quality of teaching and learning engagements of student teachers by distance, as well as on best practices that result in high quality distance learning for pre-service teachers.

No open and distance learning structure can exceed the quality of the people within the system (Burns, 2011). In other words, the level of commitment and passion by the administrators, facilitators and support personnel in open and distance learning institutions will determine the level of success and sustainability of the programme. While corroborating this, Fullan (2010) note the following important conditions necessary for an open and distance learning system to move from supporting low-quality to high-quality instruction:

- A committed conviction within the highest level of an educational system that all students can learn

- Clear and ambitious learning objectives that are linked to instruction
- Human and material capacities around the instructional practice at every sphere of the system
- Incentives, accountability, and knowledge management around change
- Dedication and commitment on behalf of the educational structure to make itself a true learning institution in which every individual, from the highest cadre administrator to student, is given opportunities for continuing learning.

While its advantages can be evaluated by technical, social, and economic criteria, open and distance learning system also have its pedagogical weak points, which leads learners to a different way of conceiving knowledge generation and acquisition. Although, different people perceive the advantages of open and distance learning differently, their perceptions have influenced attitudes towards acceptance and use of the delivery system.

Good teaching depends largely on the teachers' ability to correctly present the content (Kennedy, 1997; and Burns, 2011). Quality classroom teaching depends largely on the ability to keep students orderly and attentive, and that the method by which one teaches a subject itself conveys important information to students about the subject matter. In other words, how a subject is taught by the teacher tells students whether the subject is interesting or not. As a result, the word 'pedagogy' is changing in definition as a set of techniques that enable classroom teachers to sustain order or to control the attention of learners, but instead as necessary to the substantive goals and objectives of teaching-learning process.

Mikropoulos (2004) and Olaniran (2013) stated that although teaching and learning activities can get better as a result of improved use of the technology, other factors than technology are critical

in determining the way teachers conduct their teaching. Mikropoulos, therefore, proposed that a pedagogically oriented perceptive of teaching with telecommunications is necessary to improve approaches to teaching. He finally argued that a student-centred, open and flexible environment is needed for student teachers to learn to teach effectively.

Similarly, Blanchette and Kanuka (1999) proposed constructivist principles within the context of distance education, with their approaches being the same as for the design of stand-alone hypermedia educational software. The authors stated that communication technologies have removed the barrier to participant interaction and shifted the problem to the implementation of constructivist theories in educational software in general. Martinez (1999) emphasized the different learning styles for a successful learning in distance education environments. They proposed a series of learning issues for intentional, performing and conforming learners, as well as giving the same guidelines as in stand-alone applications. Dunlap (1999) provided guidelines for creating constructivist-based rich environments for active learning on the web. Her proposal was based on general educational software guidelines. For Dunlap, the main potentials for active learning on the web were collaboration, access to resources, and research, acknowledging the social nature of knowledge construction.

There remain concerns however, about the effectiveness of distance education for learners who may be considered less independent and thus may require direct interaction throughout the instructional process (Schmidt & Faulkner, 1989). Another issue of concern is the cost of Open and Distance Learning programming for individual students (Ojo, Ogidan, & Olakulehin, 2005). There is a perception that all distant learners are members of the working class, but this is not entirely true. The findings of the study by Ojo and Olakulehin (2006) have found little difference in the quality of education received through distance learning and the conventional university

classroom settings. Similarly, the study by Gagne and Shepherd (2001) found that students taking distance learning courses perform as well as students taking courses via traditional methods. More often than not, perceptions of the distance learning system in the instructional process is influenced by an individual's beliefs about the advantages of distance education, for himself, as a student, as an employer, or as an educational planner.

Schott et al (2003) developing and delivering courses, curricula, and programmes through open and distance learning mode requires faculties and administrators to be mindful of many factors including how to defeat barriers to effective and efficient execution of open and distance education courses, curricula, and programmes. Moore (2001) noted that to be successful in delivering courses using online platforms; faculty must allow student to student interaction with minimal faculty intervention. The facilitators must engage students in regular assignments in order to monitor their progress and intervene when needed. Provision of specialized attention to students with low levels of self-directedness; and help students become more self-directed. Students in distance education courses and programmes often feel isolated and apprehensive.

McCracken (2004) noted the important role of feedback and support services in facilitating comprehensive personal and academic development in open and distance education. Studies (Fredericksen, Pickett, Shea, Pelz, & Swan, 2001; Palloff & Pratt, 1999, 2001; Western Cooperative for Educational Telecommunications, 2004) have shown that support services promote retention for distance learners in a web-based environment. Those support services mentioned frequently include:

- reliable, stable technology and related support and training;

- available, accessible, and visible instructional, business, and student support systems, programmes, and services;
- ongoing responsiveness from and communication/interaction with support staff and faculty members;
- available career readiness and transition information; and,
- the creation of strong, congruent and interactive learning opportunities

3.10 Support service factor in open and distance education

Open and distance learners require significant level of support and guidance to have the best of distance learning experiences (Threlkeld & Brzoska, 2004). This support typically has taken the form of some combination of student-instructor and student-student interaction.

Open and distance education in this age calls upon an extraordinary variety of technologies to enable distance learners who are separated by distance to communicate with each other in both real time, also known as synchronous, and delayed time, known as asynchronous. In other words, institutions of higher learning running open and distance learning system must provide enabling environments for their learners to access education and learning opportunities at a time, place, and pace that suit their personality lifestyles, teaching-learning preferences and individual development plans.

The main focus of any institution operating open and distance learning programme, therefore, is to devise and offer distance educational experience that encourages learners to learn. As such, open and distance learning providers need to understand that its educational products and

services are to service the distance learners and provide exciting educational experiences for individual learners. In doing so, many factors need to be considered in planning, developing and delivering open and distance education courses to achieve effectiveness, efficiency and sustainability of such programmes. One of the important factors of success in ODL is an effective support system or feedback mechanism that enables learners to communicate and get instant feedback with and from each other, their facilitators and the institution's administrators and managers as a whole.

Story and DiElsi (2003) also note high retention and improved quality of distance learning courses as requirement for this support. Oaks (1996) viewed the support services issues as more important than any technology issues even though technology costs and considerations are often the focus of attention due to their budgetary importance.

Support system is particularly important in open and distance learning system because newly admitted distance learners are usually faced with anxiety associated with a new learning environment and the anticipation that comes with self-regulating learning (McLoughlin & Marshall, 2000). Although it can be argued that these ODL learners should already possess these attributes, this generalization does not always apply to every learner who comes to learn through open and distance learning. Every learner, institution, and curriculum is unique and each exhibit different strengths and weaknesses (Dzakiria, 2005).

Learning could be very teacher-centred if adequate support services and feedback mechanism are not provided by the open and distance learning institutions. Distance learner's differences in age, educational background and working/social experiences also reflect the fact that each learner is vastly different from each other. For instance, a learner who has left the learning environment for

many years ago may feel incompetent and lacking in the learning skills needed to compete with other learners if there are no good support services to assist his or her remediation process.

Another factor to consider is the social and occupational engagements of the learners in open and distance learning system. Traditionally, students studying through open and distance learning mode have been perceived as matured adults, who seeks post secondary level of education. Being a matured learner comes with different forms of social and professional experiences. Thomas(2001) notes that, five of six learners in open and distance learning programmes worldwide are engaged with one form of occupation or the other and would not be able to attend conventional school settings for learning. Given the economic situation in Africa, especially the recent global economic recession, there are several fully employed adults who desire further education and training but could not afford to leave their current employments for a full-time campus-based educational programme. Furthermore, the rapid pace of technological changes has made it necessary for adults to continuously upgrade their knowledge and skills so as to stay competitive in the job market (Devi, 2002).

Moskal and Dziuban (2001) found that the top three reasons why most students enrolled in open and distance learning courses were flexibility, curiosity about or desire to try home-based programmes, and scheduling conflicts with traditional classes. McEwen (2001) additionally noted a major concern with time management, because students were juggling classes, work, family, and travel commitments. Students who enrol in distance learning courses do so for convenience (Galusha, 1997). They are either time bound by work, travel schedules, or location bound due to geographic or family responsibilities.

Although open and distance learning courses offer major advantages such as flexibility, they are not for everyone (Devi, 2001; Kearsley, 2002). Students need to understand their own learning styles and the level of interaction that they need to sustain their interest in a class (Devi, 2001). Those who thrive on the social aspects of the traditional classroom or who enjoy face-to-face lectures may have difficulties with online learning (Jana, 1999; and Ramos, 2001).

Open and distance learning students have been found to value convenience and flexibility more than interaction with instructor and peers (Roblyer, 1999) and to have a learning style that is more independent and less collaborative than face-to-face students (Diaz & Cartnal, 1999). Such students may select online learning expecting instruction that is more individually paced than interactive. Yet ODL courses designed to make use of distributed expertise and social construction of knowledge as described by Hung and Chen (2001) require substantive online interaction with, and collaboration between both peers and professor.

In his research, Gee (1990) noted that successful ODL students preferred an independent learning style. James and Gardner (1995) suggested that students who favoured reliance on independent learning skills would be more suited to a distance learning format. Similarly, Kader (2001) was of the opinion that distance mode of learning may be more suited to men, because they are more likely to use the internet; however, women's use of online learning may increase because online learning requires logic and detail, areas in which women may have an advantage. Moskal and Dziuban (2001) found that women were eight percent more likely than men to succeed in online courses.

Moreover, satisfaction has been linked to experience with online learning. The more experience students have with open and distance learning, the more satisfied they are with distance learning

course delivery (Arbaugh & Duray, 2002). These authors further notes that larger class sizes decreased distance learning course satisfaction. MacGregor (2000) found that ODL students were more serious and more accommodating than traditional classroom students. In the same study, it was also shown that ODL students perceived their classes as having a higher workload. They anticipated lower grades than traditional classroom students but reported similar levels of satisfaction.

The primary role of the student in any learning engagement is to learn. Under the best of circumstances, this challenging task requires motivation, planning, and the ability to analyze and apply the information being taught. In a distance education setting, the process of student learning is more complex for several reasons. Schuemer (1993) listed the age of students, the diversity of purpose, isolation of the learner, and difficulty in communication among the reasons for the complexity of the learning process for ODL students.

Brundage, Keane, and Mackneson (1993) have suggested that adult students and their instructors must face and overcome a number of challenges before learning takes place. These challenges include;

- Becoming and staying responsible for themselves;
- owning their strengths, desires, skills, and needs;
- maintaining and increasing self-esteem;
- relating to others;
- clarifying what is learned;
- redefining what legitimate knowledge is; and
- dealing with content.

Students in distance education settings have been judged to perform as well or better on assignments, class activities, and exams when compared to campus-based students (St. Pierre, 1998). Nevertheless, students must maintain persistence and a clear focus to succeed in a distance-learning situation. Self-direction, a passion for learning, and strong individual responsibility are important influences on achievement. There are indications that distance education works best for more mature, motivated, well-organized, and already accomplished learners (Rintala, 1998).

Students have expressed the belief that having a good tutor is vitally important in helping them get the most out of a course and achieve a credit (Meacham & Evans, 1989), and geographical isolation has been identified as one of the major problems for distance students. In addition to the practical problems of contacting academic and administrative staff, obtaining study materials and borrowing library books, distance students suffer from the disadvantage of being unable to interact with other students and are often denied the perception that they belong to a scholarly community. This may lead to feelings of inadequacy and insecurity, and a lack of confidence in their own abilities (Wood, 1996).

Although some researchers have found that the effectiveness of open and distance learning equals or exceeds that of traditional classroom learning (Rice, 2000; Rosenbaum, 2001), the debate regarding the quality of open and distance learning programmes has continued into the 21st century (Hongmei, 2002). In conclusion, the level of support system available in an open and distance learning institution can determine the depth of learning and output a distance learner will display in a challenging environment where he or she is expected to perform using the knowledge acquired. This is why open and distance learning institutions must pay a close attention to the aspect of support services available to learners in their institutions.

3.11 The issue of quality in Teacher Training by Distance

Quality assurance in open and distance education is one of the major concerns among researchers, ODL based institutions of higher learning and other stakeholders. Harman (2000) views quality assurance as a systematic running, assessing and evaluating programmes and procedures adopted by institution with a view to checking performance against objectives, and to ensure that quality outputs and quality improvements are achieved. Moreover, Ezra (2009) suggested open and distance learning based universities to devote more attention on the assessment of the quality of their learning environment, staff and support services.

Furthermore, Belawati and Zuhairi (2007) relate that all quality assurance efforts or strategies in higher education institutions shares a common goal, i.e. to ensure that learners receive a high quality and relevant education and skills, and also awarded degrees that are widely recognized by governments of the land and employers of labour. Since more than two decades ago, there has been a noticeable growth in quality assurance (QA) activities in open and distance learning programmes geared towards developing higher education on institutional, national, regional, and global levels Belawati and Zuwahiri (2007). Stakeholders at public and institutional levels desiring accountability in open and distance education institutions have encouraged governments to set up quality assurance and accreditation institutions/agencies that will ensure that standard are followed by the ODL institutions in terms of recruitment of students and staff, introduction and accreditation of study programmes, as well as the award of diplomas and degrees.

Since stakeholders and learners have become increasingly interested in the quality assurance of teacher training programmes by distance, ODL based institutions providing this training must

pay good attention to these issues of quality in terms of their deliverables, processes, learning contents, delivery channels, laboratories, and teaching practice supervision.

Apart from the internal quality checks put in place by the institutions running teacher training by distance, governments of different countries have also established quality assurance agencies with the aim of improving the quality of educational engagements of higher education institutions in their respective countries. In South Africa, for instance, Department of Higher Education and Training (DHET), Council on Higher Education (CHE) and South African Qualification Authority (SAQA) are parts of the bodies established by the government to oversee accreditation and quality issues in different institutions of higher learning. Similarly in Nigeria, the Federal Ministry of Education have established agencies that works hand-in-hand with the ministry to ensure quality of academic programmes in the country's institutions of higher learning. These include National University Commission (NUC), and Teacher Registration Council of Nigeria (TRCN). While corroborating this, Brennan and Shah (2000), notes four routine activities that take place at different institutional and country levels to ensure quality assurance of higher education institutions. These includes

- **Establishment of national coordinating body:** At Federal or National government level of different countries, different bodies or groups are formed to pay special visits to higher education institutions for the purpose of evaluating teaching, research and community engagement activities of different institutions. Individual members of such bodies are usually Senior lecturers and Professors in the Universities, as well as those working in the quality assurance units of educational and research organizations.
- **Institutional self-evaluation:** Quality assurance section or department is a crucial unit of any academic institution today because of the need to have a department that helps people

creates and maintain a quality culture within the academic organization. Majorly, this unit engages in a periodic internal evaluation of an academic institution through a planned, consistent and systematic review process with the aim of ensuring that acceptable standards of operation, in terms of educational delivery, research, and infrastructure are maintained and sustained.

- **External evaluation by academic peers:** Some higher education institutions also subjects their system and staff to the review of academic peers who comes from external institutions. This is done mostly in the universities during the period when senior member of academic staff is due for promotion, or when a new programme is being introduced to the university system, especially where the university lacks a sufficient expertise to review such programme.
- **Published reports:** Higher education institutions that are keen to the issue of quality must ensure periodic publication of policies and practices that will guide the member of staff in building the culture of quality. To do this, constant information dissemination through publication is crucial in the building and development of the quality process. Tempus (2016) enumerated some steps that must guide this endeavour. These includes the development of research and quality management team, develop of management policies and secure transparent, sharing of vision and strategy for achieving the set objectives, development of evaluation procedures and tools for benchmarking, and develop of intellectual property rights policies within the institution.

3.12 Summary

Thus far, this chapter has reviewed relevant literature on the open and distance education and how it is being used to train pre-service teachers in the selected African countries. The chapter also contained detailed description of pre-service teacher programme, both in the conventional and distance learning context. The literature review has highlighted significant reasons why open and distance education must be used in the training of teachers due to the shortage of skilled teaching manpower in most of the countries in Africa, and to give opportunity to those who may be disadvantaged in terms of distance, time and finance to have access to education. The key players and dynamics of open and distance education like distance learners, facilitators, support staff, technologies, and feedback system were also examined.

From the review of related literature, it is clear that open and distance education requires proactive personnel and effective support system to be able to deliver the set goal. These personnel are supposed to provide constant support for their learners, especially those that are studying to gain teaching qualification. Communication has been revealed by many literatures as a very vital tool in the delivery of goals and objectives of distance teacher education. Information and communication technologies are also considered to have great influence on the promotion of open and distance education for teacher training. The chapter also highlighted the place of teaching practice in preparing teacher trainees for classroom practice. However, most of the recent studies in teacher training by distance have not been able to address much in terms of the expectations in the area of quality control in the institutions' assessment system, technologies and output of the graduates produced. This is one of the gaps in literature that this study was set out to address. In chapter four, the researcher describes the research design and methods of data collection.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

The preceding chapter presented the review of related literature based on the previous studies that addresses the key variables of this study. The aim of this chapter is to describe the research design and methodology employed to gather the information needed to answer the questions posed by the research problem. The chapter also explained in details the research approaches employed such as the population for the study, the sample size, the sampling technique, the instruments for data collection, data collection techniques, data analysis and interpretation as well as the validity, reliability and trustworthiness of research. Since the nature of the study is to examine pre-service teacher training in selected open and distance learning based universities in South Africa and Nigeria, efforts were made in this chapter to explain the procedures involved in recruiting and reaching out to the participating groups in each of the institutions involved in the study.

4.2 Research Paradigms

Research paradigms basically address the philosophical foundations that provide outlines or frameworks on how research study should be conducted. The term 'paradigm' came from the Greek word 'paradeigma' which simply means 'pattern' and it was used for the first time by a researcher known as Thomas Kuhn in 1962 (Owolabi, 2017). Kuhn described paradigm as a research culture that points to beliefs, assumptions and values, which researchers worldwide have in

common, in relation to the nature and conduct of research. Prominent among the research paradigms are the positivist and naturalist, also known as the qualitative and quantitative methods of research (Mugenda & Mugenda, 2008).

Quantitative research is a research approach that emphasizes quantification in both collection and analysis of information or data. It entails a deductive approach to the linkage that exists between theory and research, which places more emphasis on the testing of theories (Bryman, & Cramer, 2004). Qualitative research, on the other hand, devotes much attention on the intangible, which can only be studied and reported holistically (Mugenda and Mugenda, 1999). Qualitative study also promotes a technique that emphasizes words, also known as interpretive, rather than quantitative, in the process of data collection and analysis.

This study, therefore, used a combination of quantitative and qualitative techniques by making use of questionnaires with open and close-ended questions for the field work in order to investigate the experiences of pre-service Science teachers that are studying in the selected ODL based universities, as well as interviews from the selected academic and support staff members. In other words, the study used a mixture of both techniques to collect both numerical and interpretive data, which were analysed and triangulated together to bring out the findings or results of the study.

4.3 Research design

The research design in a study could be seen as a blueprint for carrying out a study with maximum control over factors that may meddle with the validity of the findings (Burns & Grove, 2003). Research design is also defined by Muzumara (1998, p.46), as

...the organization, plan, or procedure by which an investigator intends to answer research questions. The design is also intended to control errors of procedures and interpretation: the structure of the design specifically delimits the kind of observations which can be made, the persons from whom data can be collected, and the kind of analysis it is possible to make within the framework and the form of the data.

Leedy and Ormond (2008) also note the two prominent approaches to research, which are qualitative and quantitative methods. Quantitative research method provides answers to questions based on the relationship that exist between the study variables with the aim of explaining and predicting occurrences.

4.3.1 Descriptive research design

The descriptive research design of a case study which uses survey was employed for this study. Survey research is a method of data collection in which participants are asked series of questions through a research instrument (Redmond, 2009). Case study, however, is used to examine specific incidences such as study of a group or population (Nigel & Isabel 2015). Similarly, Berthan and Christiansen (2015) views case study as an approach to research that focuses on gaining an in-depth understanding of a particular event or phenomena at a certain time.

Moreover, Yin (2003) lists various reasons for using case study approach in academic research. These reasons include when the focus of the academic study is to provide answer to ‘how’ and ‘why’ questions, when the behaviour of participants involved in the research cannot be manipulated, when the research is trying to contextual the research conditions because of the belief that they are relevant to the observable fact under study, and when the boundaries are not very clear between the observable fact and context.

Furthermore, there exist single and multiple case study research which usually provides answers to “how” and “why” questions (Baxter and Jack, 2008). One unique thing about the case study research is that the behaviours of the study participants cannot be influenced. This research made use of multiple case study method because it enabled deeper understanding of the distance learning based pre-service teacher training from two ODL based universities in two different African countries. It was believed that the two universities under study would mirror some similarities and differences in terms of operation, demography of learners, resources and technologies, policy and procedures, support system, and assessment methods, among others.

However, the survey for this study was carried out using both quantitative and qualitative techniques. McMillan and Schumacher (2006) see quantitative and qualitative methods of data collection as an appropriate way of generating empirical evidence that can be used to answer the research questions of a study. Moreover, Bryman (2001) views qualitative research as a research approach that emphasizes words more than quantification. Cresswell (2005), on the other hand, described the quantitative method as a type in which the investigator decides what specifically to study, be specific about the questions, narrow down the questions, collects the data numerically from the study participants, analyzes these numerical data using statistics, and carry out the investigation without being biased.

The researcher employed the use questionnaire to collect quantitative data from the pre-service teachers in the selected institutions, while series of interviews were conducted to collect qualitative data from the facilitators and support staff in the selected institutions, especially those who belong to the Faculty of Education. The reason for multiple approaches was to maximize relevant data gathering among the target subjects for the study.

4.4 Population for the study

A population is an entire group about which some information is required to be ascertained (Banerjee & Chaudhury, 2010). Burns and Grove (2003) explain population as the entire elements that meet the criteria for inclusion in a study. Similarly, McMillan and Schumacher (2001) also see population as a group of elements, whether humans, events or objects, that conform to exact criteria and to which we aim to generalize the outcome of a research. Cox (2008) emphasized the importance of clarity in defining population for a research study because it establishes the eligibility or ineligibility of the survey participants. The population for this study include the School of Education students studying to obtain Bachelor of Education (B. Ed) and Post-Graduate Certificate in Education (PGCE) degrees in the two open and distance learning based universities in Africa. The facilitators, as well as the support staff that are providing support services to these teacher trainees were also included in the study population.

4.4.1 Participating Open and Distance learning based universities

Two open and distance learning based universities in Africa were selected as case studies for this research. It is worthy of note that teacher training by distance in African countries are run by both conventional and distance learning based institutions (Olaniran, Duma & Nzima, 2016). However, the two universities, which were selected from South Africa and Nigeria, are purely ODL based, which means they do not run campus-based study programmes. Furthermore, the participating universities are operating academic programmes to train pre-service teachers, though the institutions also offers academic programmes in other areas of disciplines like Sciences, Arts, Humanities, Social Sciences, and Management Sciences. Moreover, the two

universities were established and funded by government, and they both accepted invitation by the researcher to participate in the study, after obtaining necessary permission from each of the two institutions.

Moreover, the two open and distance learning based universities selected for the study enabled the researcher to determine the extent to which the training being received and mode of receiving the training are having desirable effect on the recipients, both at their personal and professional capacities as classroom teachers with expectations to deliver quality teaching. The study also explored the contributions of the selected ODL based universities to the development of teacher education and the teaching profession in Nigeria and South Africa.

4.4.2 Pre-service teachers selected for the study

Pre-service teacher education, which is also called initial teacher education, is the education or training offered to student teachers before undertaken any classroom teaching. Since pre-service teacher education serves as the first form of professional studies that individual undergo prior to entering teaching profession, the quality of training programmes provided through it affects teachers' practice, efficiency, and career loyalty (Roness, 2010; Liang, Ebenezer, & Yost, 2010; Eren & Tezel, 2010).

There are two major modes of entering into pre-service teacher training programme in South African universities, first through Bachelor of Education (B.Ed.), which is normally offered for four (4) years to learners that are just graduating from high schools. The second mode is through the Post-Graduate Certificate in Education (PGCE) which is normally offered for one (1) year to a learner that has undergone university education at Bachelor degree level in other academic

fields or disciplines other than education but wishes to gain teaching qualification with the intention of becoming a professional teacher. This is also similar to Nigerian situation, however, in Nigeria context, Post-Graduate Certificate in Education (PGCE) is known as Post-Graduate Diploma in Education (PGDE).

For this study, the pre-service teachers selected as participants were those undergoing Bachelor of Education (B.Ed.) degree in the ODL based universities selected for the study. It is, however, important to state that the participants have already undergone practice teaching exercise which qualified them to be used as respondents for the study.

4.4.3 Facilitators selected for the study

Facilitators play crucial role in the operation and delivery of open and distance education anywhere, anytime. Other names for facilitators are lecturers, teachers, professors, academic staff, faculty members, educators, and trainers. For this study, three (3) facilitators/academic staff served as participants in each of the two ODL based universities selected for the study. The facilitators were interviewed to get their opinion on the operations, output and outcome of the teacher training by distance in their institutions.

4.4.4 Support staff selected for the study

Support staff also play major role in ensuring that goals and objectives of distance education programmes are delivered. Support staff closely works with facilitators to ensure that teaching and learning activities goes smoothly. Support staff handles activities related to information

circulation, receiving and responding to questions and feedbacks from the learners, as well as guiding students on matters related to admission, registration, and course modification.

Two (2) support staff members were interviewed from each of the selected ODL based universities for the study. The questions asked centred on the e-learning content, support and feedback services, and technologies used the delivery, monitoring and evaluation of teacher trainees by distance.

4.5 Sampling and sampling procedure

A sample can be described as a set of respondents selected from a larger population for the purpose of a survey. According to Neuman (2011), sampling in a research study can be divided into two namely, probability and non-probability sampling. Probability sampling technique is mainly the selection of samples from a collection or group based in a random, while non-probability sampling involves the selection of sample from an unidentified population (Gerrish & Lacey, 2013). Stratified random sampling which is a subset of the probability sampling technique was used to select pre-service teachers in their B.Ed. and PGCE/PGDE programmes, while purposive sampling, which is a subset of the non-probability sampling technique, was used to select facilitators and support staff in the selected open and distance learning based universities in South Africa and Nigeria. In stratified sampling technique, the population is divided into groups, based on some characteristic. Then, within each group, a probability sample is selected.

Since the study deals mainly with distance learners, electronic questionnaire was used as research instrument to collect data from the participating teacher trainees. The study used

stratified random sampling technique to select a total number of 945 pre-service teacher trainees in an ODL based University in South Africa, the selection of sample cut across the 9 Provinces of the country (i.e. 105 per Province). The 9 Provinces in South Africa are Eastern Cape, Free State, Gauteng, Limpopo, Mpumalanga, Northern Cape, North West, KwaZulu Natal, and Western Cape. Similarly, 1020 pre-service teacher trainees were also selected as sample from the ODL based University used in Nigeria, and the selection was also spread across the 6 Geopolitical zones of the country, namely South West, South East, South South, North East, North West and North Central.

However, after the expiration of the 5 Months period of data collection for this study, 515 pre-service teacher trainees responded to the anonymous web-based questionnaire from South Africa, while 701 responded from Nigeria. Therefore, the total number of pre-service teacher trainees that responded to the questionnaire from the two countries of study was 1216. Also, one-on-one interview was conducted for three academic staff (3) and two (2) support staff in the school of Education of each of the ODL based universities selected for the study, making the total number of 10 staff interviewed.

4.6 Research instrument for the study

Since the study mainly deals with the open and distance learners, data collection was done using anonymous web based questionnaire and semi-structured interview. The questionnaire was divided into sections A and B. Section A contained eight (8) items on demographic characteristics of the participants, namely: gender, age group, marital status, occupational status, and religion, and nationality, present level of study and places/regions of residence. Section B of

the questionnaire contained set of questions that speak directly to the research questions and objectives of the study. Likert type of attitudinal rating scale was adopted in rating the responses of the participants to the questionnaire items. Interview questions were structured based on the objectives and research questions set for the study.

4.6.1 Use of web based questionnaire

Web based questionnaire is a research instrument designed online, through a dedicated website, for the purpose of collecting data from the study participants that are difficult to reach physically due to the barrier of distance, time or ethical issue. Wyatt (2000) identified several methods which can be used to collect information from the remote learners which include telephone interview, fax, email, and posting of survey instrument on an open website. The use of web based instrument is common in a study like this that involves open and distance learners because of the remote nature of the participants. Saunders and Thornhill (2003) identified the use of online based instrument to be relevant because it allows the study participant to respond to respond to the instrument at their convenient time, using their personal computer.

Moreover, this study made use of an anonymous web-based questionnaire which was designed using a website tool called Google doc. After the design of the instrument, the link to the anonymous questionnaire was sent to the ICT units of the two ODL based university selected for this study. This was done in accordance to the research ethics policy and procedures of the two universities which mandated a researcher to pass through the gate-keeping eyes of the ICT Departments of the universities for any activity involving the use of the institutions' data, students or staff for research purposes.

4.6.2 Anonymity/de-identification of data

Anonymity in a research study involves collection of information with an instrument that does not collect identifying data of individual participant like name, e-mail address, and phone number, among others. Similarly, de-identification of data enables others to use information without the likelihood of the participants being recognized or identified (ANDS, 2017). Complete anonymity of research data means no individual reader or user of a research project or product can link the responses with participants' identities. According to Lo (2015), one major way through which issues relating to privacy can be addressed in a research study is by safeguarding the identities of the study participants through “anonymity” or “de-identification”.

ANDS (2017) further notes that research data may be de-identified for two major reasons:

- to guard the confidentiality of participating individuals and organisations in a research study; and
- to guarantee that the location of archaeological results or endangered species is not revealed to the public

In this study, the researcher made every effort to treat the responses of both the individual participants and universities as strictly confidential as possible. This was carried out in conformity with the policy and procedures highlighted in the approved ethical clearances giving to the researcher before the commencement of data collection.

Moreover, the pre-service teacher trainees, academic and support staff members that participated in this study were duly informed about the objective of the survey. They were also informed that their involvement in the survey was voluntary, while they were guaranteed that confidentiality of their personal data would be protected during and after the survey.

4.7 Validity and reliability

There are different ways of testing the validity and reliability of a research instrument. Kimberlin and Winterstein (2008) notes that reliability estimates are used to evaluate the stability of actions carried out at different times to the same individuals or applying the same standard or the equivalence of sets of objects from the same test or of different observers scoring a behaviour or event using the same instrument. When talking about validity, however, Kimberlin and Winterstein further highlighted the following as different shapes which validity of a research instrument:

Construct validity: The type of validity based on the gathering of evidence from numerous studies using a precise measuring instrument. Application of construct validity requires investigating the relationship of the measure being evaluated with variables known to be related or theoretically related to the construct measured by the instrument.

Content validity: This is the type of validity which addresses how well the items developed to work out a construct provide an adequate and representative sample of all the items that might measure the construct of interest. Content validity typically depends on the opinion of experts in the field because there is no statistical test to determine whether a measure adequately covers a content area or adequately represents a construct.

Criterion-related validity: The criterion-related validity is described as the one that provides evidence about how well scores on the new measure correlate with other measures of the same construct or very similar underlying constructs that theoretically should be related. It is very important that these criterion measures are valid themselves. With one type of criterion-related

validity, the criterion measurement is obtained at some point after the administration of the instrument, and the ability of the test to accurately predict the criterion is evaluated.

According to Upadhyaya and Singh (2010), validity of any test is primarily concerned with the extent to which an instrument measures what it is supposed to measure. The validity and reliability of the survey instruments were measured using the Cronbach's alpha to determine the level of internal consistency of the questions in the instrument. Cronbach's alpha is a method of measuring internal consistency of a set of test or variables in an instrument (Gilem & Gilem, 2003). In order to make sure that the instrument was consistent, and devoid of any error, the questionnaire was carefully constructed using simple language with no ambiguities. Furthermore, the initial instrument was tested to selected group of students within the researcher's host institution.

4.8 Data analysis

This study employed the use of descriptive statistics to analyze the questionnaires. Brink et al (2012) notes that descriptive statistics approach employs measures such as frequency distributions, measures of central tendency, dispersion, dispersion or variability and measures of relationship. Similarly, Lavrakas (2008) explains frequency distribution of quantitative data to be useful when a researcher is expressing the relative frequency of survey responses gathered through questionnaire. For this study, quantitative data collected through questionnaire were analysed using descriptive statistics of percentage and frequency counts. The results of the quantitative data analyses were displayed as tables and graphs, followed by discussions of each result.

Moreover, the analysis of qualitative data obtained from the interviews was done through summative content analysis. A summative content analysis in a qualitative research involves counting and comparing keywords or content with the interpretation of the underlying context (Hsieh & Shannon, 2005). The analysis of the study's qualitative data was done by identifying common themes from the participants' thoughts and experiences on the initial teacher education programme in their universities. Moreover, relevant themes to the research objectives set for this study were arranged into sentences and discussed comprehensively using tabular form.

4.9 Summary

This chapter highlights a number of procedures that the researcher followed in conducting this study with detailed explanations concerning the participants in the research, the methods of data collection, population for the study, sampling and sampling technique, instruments for the study, and how data collected was be analyzed. The data collection techniques consist of questionnaire administration, in-depth interviews of the facilitators and support staff involved in teaching and learning activities in the selected open and distance learning institutions. It is pertinent to also note that this study made use of both quantitative and qualitative research methods, which is also called mix-method research, in collecting data from the participants. The researcher also gives comprehensive explanation on the validity and reliability of the instruments for data collection.

The next chapter highlighted the findings of the study.

CHAPTER FIVE

PRESENTATION OF QUANTITATIVE DATA

5.1 Introduction

This chapter presented the analysis of the quantitative data collected for the study. As outlined in the previous Chapter (Chapter 4), the study employed both quantitative and qualitative data collection techniques. Hence, this chapter presented the the quantitative data collected through questionnaire.

Anonymous web based questionnaire was used to collect quantitative data from the participants. The questionnaires for both countries were designed separately due to the differences in the qualifications as well as the requirements for entry into pre-service teacher training of the two countries. For example, in South Africa, a candidate can enrol for pre-service teacher training at Bachelor of Education (B.Ed.) level with Matric certificate or any other higher qualification that is considered to be the equivalent of the requirement. Also, the Post-Graduate Certificate in Education (PGCE) in South Africa is considered to be pre-service teacher training programme for many candidates who holds Bachelor Degree in Humanities, Sciences and all other fields that are different from Education. However, in Nigeria education system, Senior School Certificate Examinations (SSCE) is considered as the equivalent of Matric certificate in South Africa, while the Post-Graduate Certificate in Education (PGCE) is called Postgraduate Diploma in Education (PGDE) in Nigeria. Therefore, to make proper clarification and avoid confusion on the part of the respondents, the instrument for the two African countries was designed and analysed separately.

5.2 Demographic characteristics of the study participants

The demographic characteristics of the pre-service teacher trainees such as gender, occupational status, age group, nationality, marital status, religion, province/region of residence, qualification used in applying for teacher training, and present level/year of study were taken into consideration when designing the instrument and analysing the data. The analyses of the respondents' demographic characteristics were displayed in tables, figures and charts.

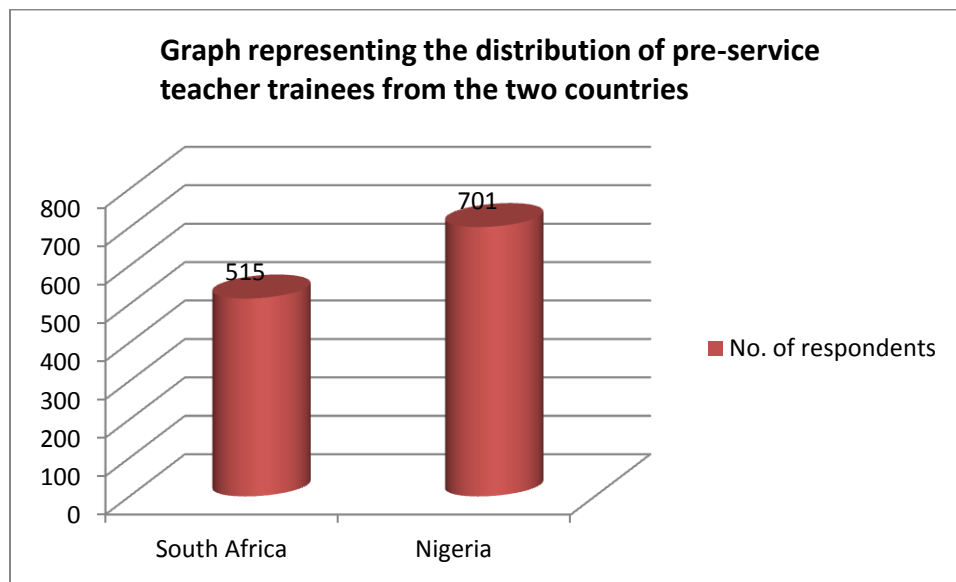
5.2.1 The Distribution of the Participants according to ODL based Universities

The pre-service teacher trainees who served as participants for this study are selected from two open and distance learning based universities in South Africa and Nigeria. The two universities were studied jointly in order to investigate how they are training pre-service teachers for the teaching profession in the two countries. The distribution of respondents, as shown on the table 5.1, revealed that 315 (42.9%) of the pre-service teacher trainees that responded to the anonymous survey are from South Africa and 420 (57.1%) are from Nigeria. The frequency distribution of the respondents as shown in the table and figure below was based on the two countries selected for the study, i.e. South Africa and Nigeria. This is further represented through the table and figure 5.1.

Table 5.1: Frequency distribution of the respondents by country (n =1216)

Country	No. of respondents	Percentage
South Africa	515	42.3
Nigeria	701	57.7
TOTAL	1216	100

Figure 5.1: Respondents by country

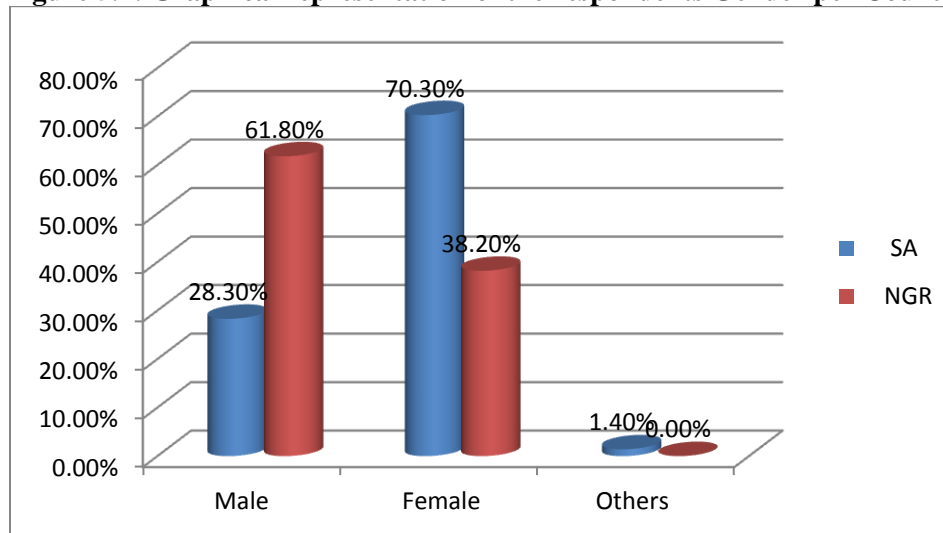


5.2.2 Gender of the respondents

Table 5.2 reveals the gender variation of the participants for this study. 70.3% of the respondents from South Africa are female, while 28.3% are male. In Nigeria, however, male constitutes the majority of the respondents with 61.8%, while the remaining 38.2% are female. This could mean that more encouragements are given to women to take up teaching positions in South Africa than in Nigeria. This may also support the findings of Singh, Singh and Singh (2012) that women tends to be more interested in open and distance learning than men due to some marital/family related limitations that come with pregnancy, childbirth, child rearing, and general cares for the family.

Table 5.2: Frequency distribution of the participants by Gender (n = 1216)

Gender		Country		TOTAL
		SA	NGR	
Male	Count	146	433	579
	% of Male gender	28.3%	61.8%	47.6%
Female	Count	362	268	630
	% of female gender	70.3%	38.2%	51.8%
Others	Count	07	0	07
	% of others	1.4%	0.0%	0.6%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.2: Graphical representation of the respondents Gender per Country

5.2.3 Age of the respondents

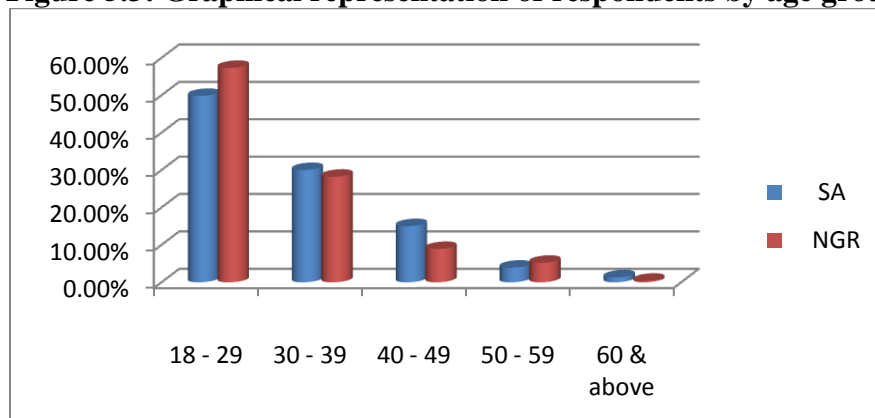
Information on the age of the respondents, as presented on the table 5.3 indicates that most of the pre-service teachers that participated in the study from the two African countries are between 18 and 29 years (49.8% in South Africa; 57.3% in Nigeria). This was followed by those between 30 - 39 years (30.0% in South Africa; 28.2% in Nigeria). This indicates that majority of the pre-

service teacher trainees that participated in the study are therefore between the ages of 18 and 39 (83.0%: 1010), followed by those between 40 and 59 years (16.1%: 196). Those between 60 years and above among the respondents constitute less than 1%.

Table 5.3 Frequency distribution of the participants by age group (n = 1216)

Age group		Country		TOTAL
		SA	NGR	
18 - 29	Count	256	401	657
	% within the country	49.8%	57.3%	54.0%
30 - 39	Count	155	198	353
	% within the country	30.0%	28.2%	29.0%
40 - 49	Count	77	63	140
	% within the country	15.0%	8.9%	11.5%
50 - 59	Count	20	36	56
	% within the country	3.9%	5.2%	4.7%
60 & above	Count	07	03	10
	% within the country	1.3%	0.4%	0.8%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.3: Graphical representation of respondents by age group



5.2.4 Marital status of the respondents

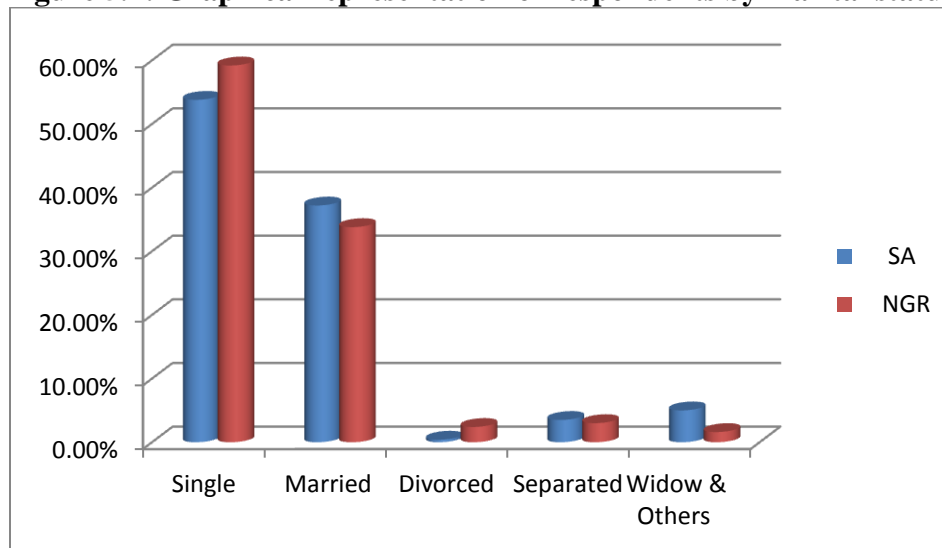
The information about the marital status of the participants was presented on the table 5.4. The information indicates that majority of the respondents from the two countries (56.9%: 692) are single, while 35.2% (429) are married. The number of those that have separated from their

spouses were 3.2% (39), those that have experienced divorce constitute 1.7% (19), and the widows/widower among the participants accounts for 1.4% (17).

Table 5.4 Frequency distribution of the participants' marital status (n = 1216)

Marital Status		Country		TOTAL
		SA	NGR	
Single	Count	277	415	692
	% within the country	53.8%	59.2%	56.9%
Married	Count	192	237	429
	% within the country	37.2%	33.8%	35.2%
Divorced	Count	02	17	19
	% within the country	0.4%	2.4%	1.7%
Separated	Count	18	21	39
	% within the country	3.5%	3%	3.2%
Widow/er	Count	06	11	17
	% within the country	1.2%	1.6%	1.4%
Others	Count	20	-	20
	% within the country	3.9%	-	1.6%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.4: Graphical representation of respondents by marital status



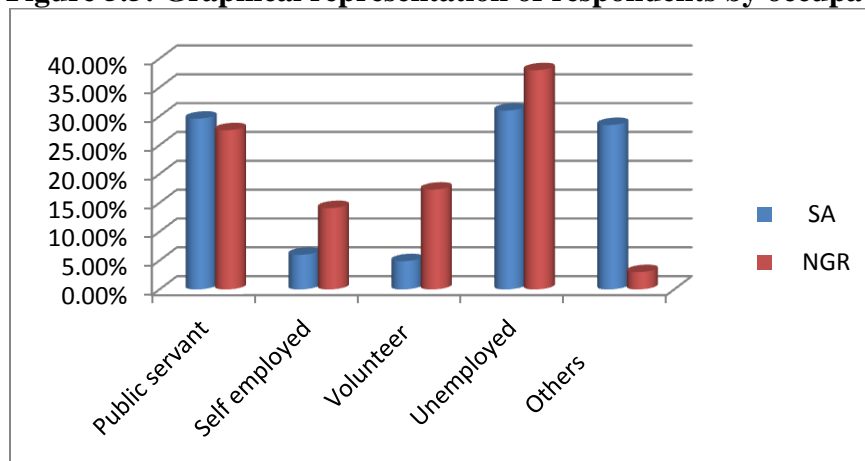
5.2.5 Occupational status of the respondents

The occupational status of the respondents, as displayed on the table 5.5, revealed that majority of the respondents from the two countries are unemployed (35.1%: 427), followed by those in public service (28.4%: 325). Those engaged in personal businesses are classified as self employed and they account for 10.7% (130), while those that engaged themselves with volunteering activities make up 12.0% (146). Other participants 168 (13.8%) could not disclose their occupational status.

Table 5.5: Frequency distribution of the participants' occupational status (n = 1216)

Occupational Status		Country		TOTAL
		SA	NGR	
Public servant	Count	152	193	345
	% within the country	29.6%	27.6%	28.4%
Self employed	Count	31	99	130
	% within the country	6.0%	14.1%	10.7%
Volunteer	Count	25	121	146
	% within the country	4.9%	17.3%	12.0%
Unemployed	Count	160	267	427
	% within the country	31.0%	38.0%	35.1%
Others	Count	147	21	168
	% within the country	28.5%	3.0%	13.8%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.5: Graphical representation of respondents by occupation



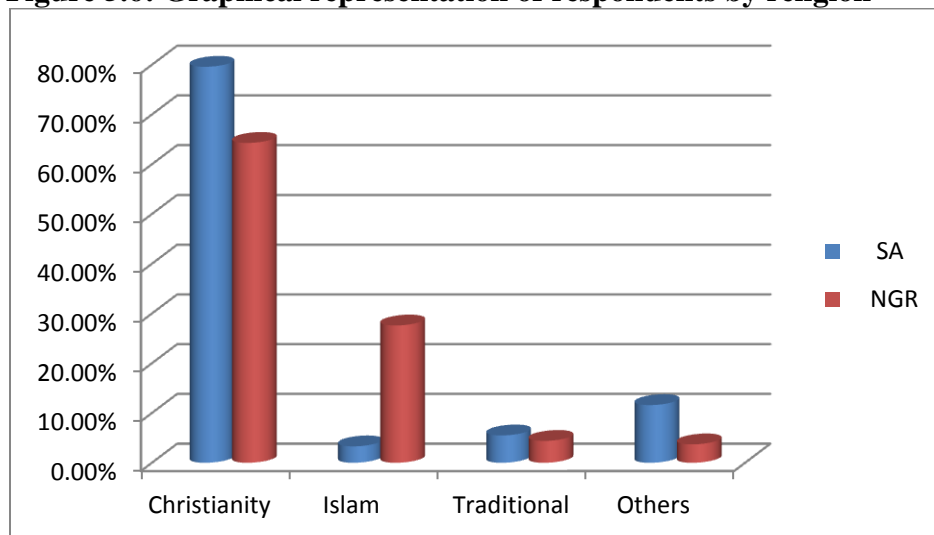
5.2.6 Religion of the respondents

Table 5.6 presents the classification of the respondents according to their religion. Out of the total 1216 respondents that completed the questionnaire, 70.8% (861) are Christians while 17.3% (210) are Muslims. Moreover, 4.9% (59) of the respondents are traditional worshipers, while 7.0% (86) of the participants hold on to other religions or belief practices.

Table 5.6: Frequency distribution of the participants by religion (n = 1216)

Religion		Country		TOTAL
		SA	NGR	
Christianity	Count	410	451	861
	% within the country	79.6%	64.3%	70.8%
Islam	Count	17	193	210
	% within the country	3.3%	27.6%	17.3%
Traditional believers	Count	28	31	59
	% within the country	5.5%	4.4%	4.9%
Others	Count	60	26	86
	% within the country	11.6%	3.7%	7.0%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.6: Graphical representation of respondents by religion



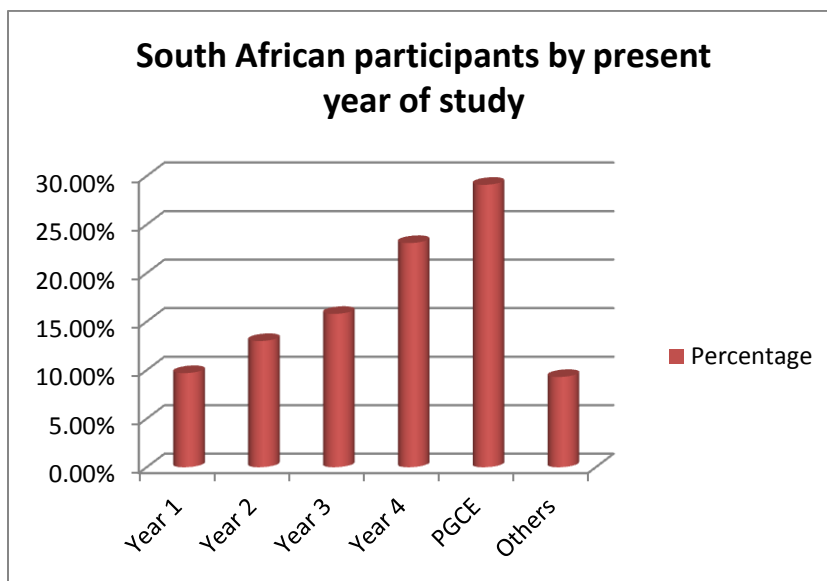
5.2.7 The present year of study of the South African respondents

The Table 5.7 indicates the current year of study of the participating pre-service teacher trainees from South Africa as at the time of this survey. The analysis shows that majority of the respondents (150; 29.1%) are on their Post Graduate Certificate on Education (PGCE) programme, followed by those in the Year 4 (119; 23.1%) and Year 3 (81; 15.8%) of their B.Ed. programme respectively.

Table 5.7: Frequency distribution of the South African participants by present year of study (n = 515)

Year of study	Count	Percentage
Year 1	50	9.7%
Year 2	67	13.0%
Year 3	81	15.8%
Year 4	119	23.1%
PGCE	150	29.1%
Others	48	9.3%
TOTAL	515	100%

Figure 5.7: Graphical representation of SA respondents by year of study



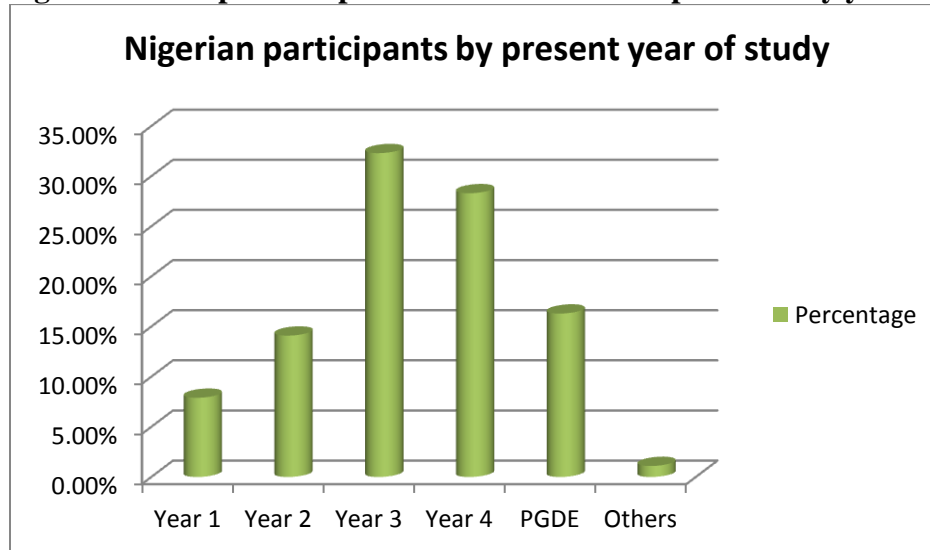
5.2.8 The present year of study of the Nigerian respondents

The Table 5.8 indicates the current year of study of the participating pre-service teacher trainees from Nigeria as at the time the survey was conducted. The analysis shows that majority of the respondents (226; 32.3%) are in the Year 3 of their B.Ed. programme, followed by those pursuing Post Graduate Diploma in Education (PGDE) programme (114; 16.3%), as well as those in their Year 4 (198; 28.3%), and Year 2 (99; 14.1%) respectively.

Table 5.8: Frequency distribution of the Nigerian participants by present year of study (n = 701)

Year of study	Count	Percentage
Year 1	56	7.9%
Year 2	99	14.1%
Year 3	226	32.3%
Year 4	198	28.3%
PGDE	114	16.3%
Others	08	1.1%
TOTAL	701	100%

Figure 5.8: Graphical representation of NGR respondents by year of study



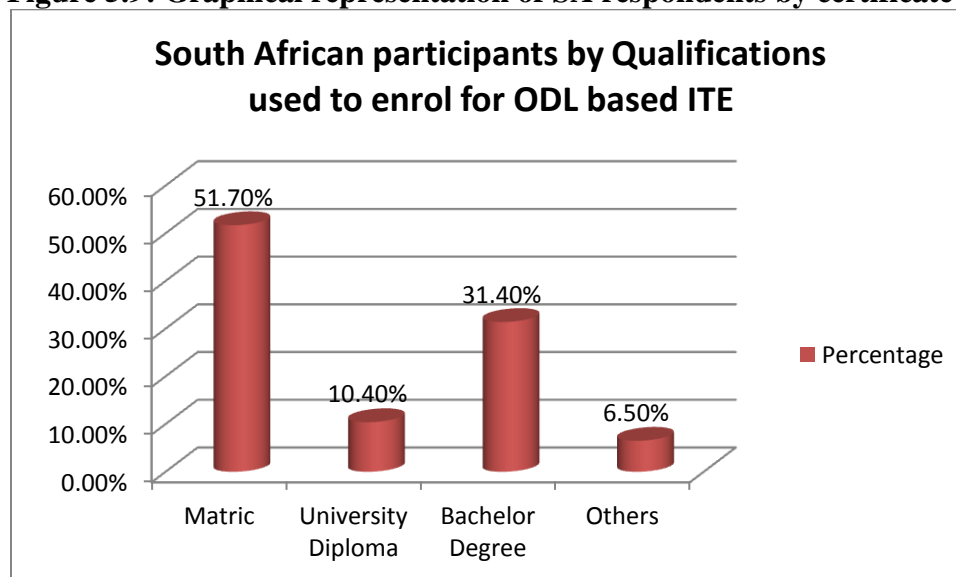
5.2.9 Qualifications used by the South African respondents to enrol for teacher training

Table 5.9 revealed the different qualifications that the South African participants used to enrol for teacher training programme. The data on the table revealed that majority of the respondents (266; 51.7%) used Matric certificate to gain entrance into the teacher training programme by distance, followed by those that used Bachelor's degree certificates (162; 31.4%) obtained in other disciplines different from education. 10.4% (54) of the respondents also indicates the University Diploma as the qualification used to gain entrance, while the remaining 6.5% (33) used other qualifications.

Table 5.9: Frequency distribution of South African participants by certificate used to apply for pre-service teacher training(n = 515)

Year of study	Count	Percentage
Matric	266	51.7%
University Diploma	54	10.4%
Bachelor Degree	162	31.4%
Others	33	6.5%
TOTAL	515	100%

Figure 5.9: Graphical representation of SA respondents by certificate used



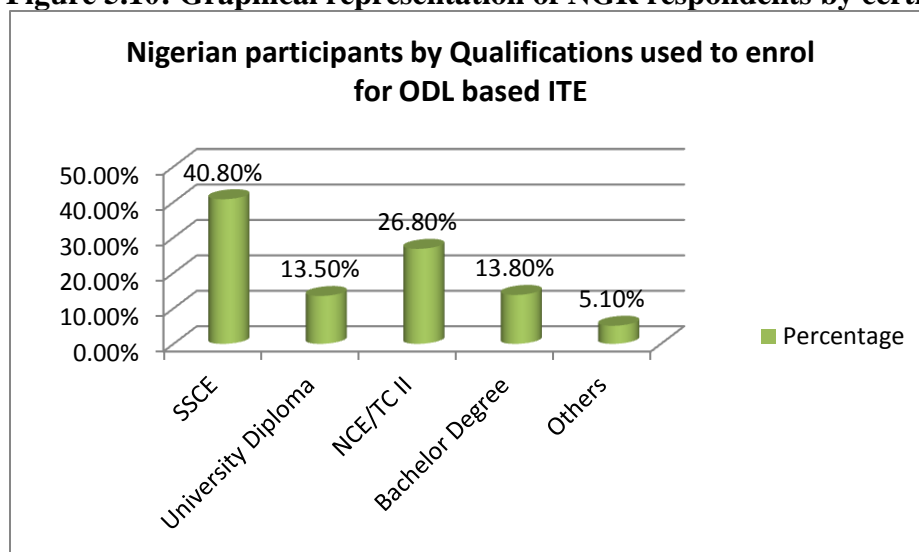
5.2.10 Qualifications used by the Nigerian respondents to enrol for teacher training

Table 5.10 showed the different qualifications used by Nigerian participants to enrol for teacher training programme in their institution. Just like their South African counterparts, the information on the table shows that majority of the respondents (286; 40.8%) used Senior Secondary School Certificates (SSCE) to gain entrance into the initial teacher education programme by distance, followed by those that used National Certificate in Education (NCE) and TC II (187; 26.8%). Those that used Bachelor degrees constitute 13.8% (97), while those who used University Diploma were 95 (13.5%). The remaining 5.1% (360) used other kinds of qualifications to enter the teacher training programme.

Table 5.10: Frequency distribution of Nigerian participants by certificate used to apply for pre-service teacher training(n = 701)

Year of study	Count	Percentage
SSCE	286	40.8%
University Diploma	95	13.5%
NCE/TC II	187	26.8%
Bachelor Degree	97	13.8%
Others	36	5.1%
TOTAL	701	100%

Figure 5.10: Graphical representation of NGR respondents by certificate used



5.3 Questionnaire items drawn from the research questions

This section presented the questionnaire items drawn from the four research questions guiding the study. Specifically, the analysis of data from the subheadings 5.3.1 to 5.3.19 provided responses to the research questions 1, 2 and 4.

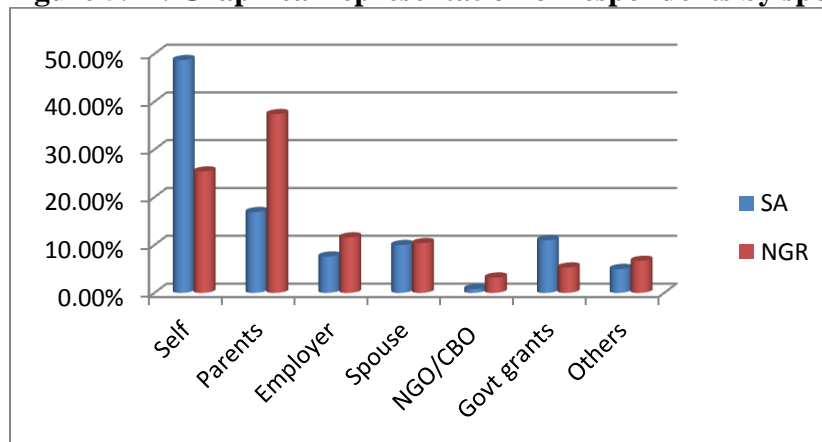
5.3.1 Respondents based on their sponsors

Table 5.11 revealed the distribution of the participants based on their sponsors. The data on the table revealed a significant number of the participants from South Africa indicated to be on self sponsorship (48.7%; 251). However, majority of the participants from Nigeria (37.4%; 262) are being sponsored by their parents.

Table 5.11: Frequency distribution of participants by type of sponsor (n = 1216)

Sponsors		Country		
		SA	NGR	TOTAL
Self	Count	251	178	429
	% within the country	48.7%	25.4%	35.3%
Parents	Count	87	262	349
	% within the country	16.9%	37.4%	28.8%
Employer	Count	39	81	120
	% within the country	7.6%	11.6%	9.9%
Spouse	Count	51	73	124
	% within the country	10.0%	10.4%	10.1%
NGO/CBO	Count	04	23	27
	% within the count	0.8%	3.2%	2.2%
Government Grant	Count	57	37	94
	% within the country	11.0%	5.3%	7.7%
Others	Count	26	47	73
	% within the country	5.0%	6.7%	6.0%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.11: Graphical representation of respondents by sponsor



5.3.2 Respondents based on their specializations

Table 5.12 revealed the distribution of the participants based on their areas of specialization in teacher training programme. Those in the Arts and Language Education formed the majority in South Africa with 23.5% (121), followed by those in other specializations (20.1%; 104) not captured in the instruments. In Nigeria, however, majority of the respondents specialized in Social Sciences Education (33.3%; 234), followed by those in the Science Education (23.1%; 162) and Arts & Language Education (16.4%; 115) respectively.

Table 5.12: Frequency distribution of participants by specialization in Teacher Education (n = 1216)

Specialization in Teacher Education		Country		TOTAL
		SA	NGR	
Science Edu.	Count	92	162	254
	% within the country	17.8%	23.1%	20.8%
Arts & Lang Edu.	Count	121	115	236
	% within the country	23.5%	16.4%	19.4%
Social Sci. Edu.	Count	62	234	296
	% within the country	12.0%	33.3%	24.3%
Curriculum Studies	Count	35	61	96
	% within the country	6.9%	8.8%	7.9%
Physical/Health Edu.	Count	10	43	53
	% within the country	2.0%	6.1%	4.4%
Technical Edu.	Count	08	14	22

Educational Psych.	% within the country	1.6%	2.0%	1.8%
	Count	83	31	114
Others	% within the country	16.1%	4.5%	9.4%
	Count	104	41	145
Total	% within the country	20.1%	5.8%	12.0%
	Count	515	701	1216
	Total %	100%	100%	100%

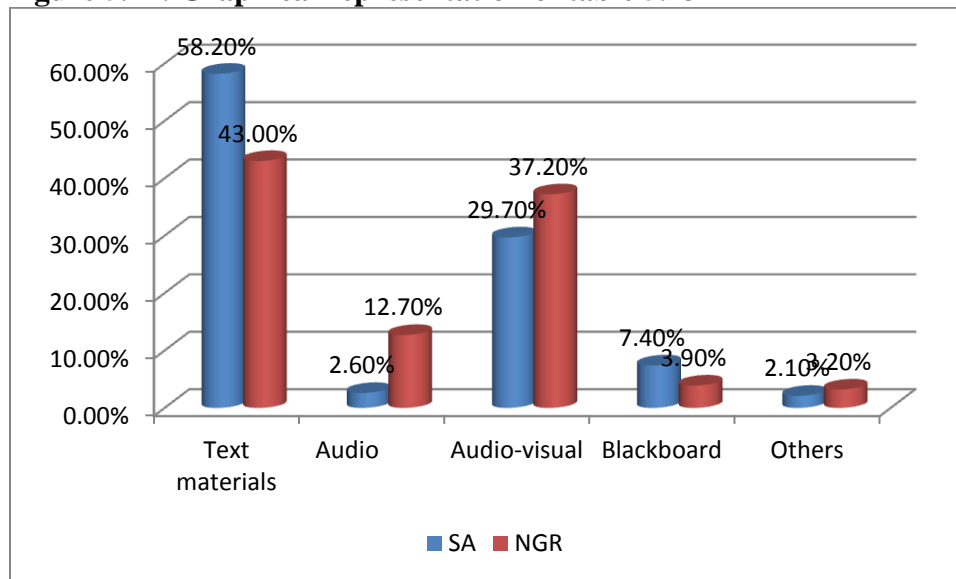
5.3.3 Distribution of respondents based on the format of learning materials

Table 5.13 shows the distribution of the participants based on the format of lecture materials enjoyed most. Information on the table reveals that majority of the respondents from the two countries (49.6%; 601) selected text materials as the major format of learning materials they appreciate most, followed by audio-visual format (34.0%; 414).

Table 5.13: Frequency distribution of the participants by the most enjoyed format of learning materials (n = 1216)

Formats of Learning Materials		Country		
		SA	NGR	TOTAL
Text materials	Count	300	301	601
	% within the country	58.2%	43.0%	49.6%
Audio	Count	13	89	102
	% within the country	2.6%	12.7%	8.3%
Audio-visual	Count	153	261	414
	% within the country	29.7%	37.2%	34.0%
Black boards	Count	38	27	65
	% within the country	7.4%	3.9%	5.4%
Others	Count	11	23	34
	% within the country	2.1%	3.2%	2.7%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.12: Graphical representation of table 5.13



5.3.4 Distribution of respondents based on the mode of receiving lecture materials

Table 5.14 shows the distribution of the participants based on the mode of obtaining lecture materials. The analysis of data on the table reveals that majority of the respondents from South Africa (46.3%; 238) indicated university website as their major platform of obtaining course contents for their studies, followed by those who receive learning materials by post (42.1%; 217). In Nigeria, however, majority of the respondents (47.2%; 331) indicated email as the major means through which they obtain course materials, followed by those who indicated pre-loaded CD Rom (20.2%; 142).

Table 5.14: Frequency distribution of the participants by frequently used mode of obtaining course contents (n = 1216)

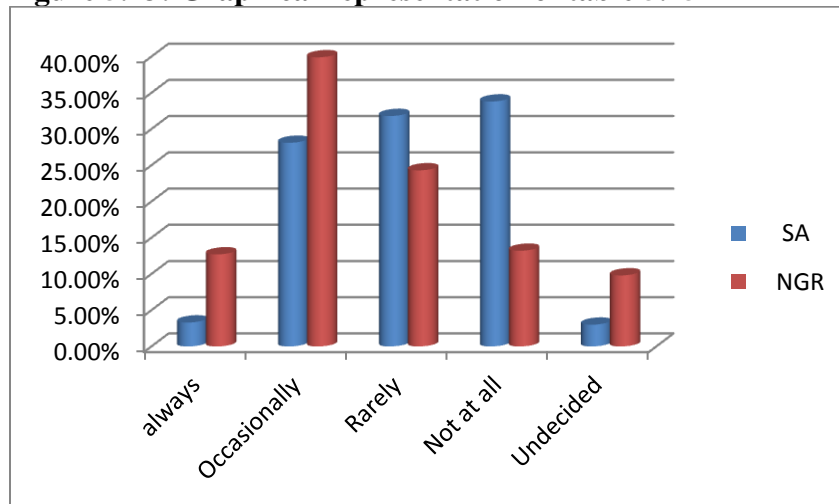
Modes of receiving course contents		Country		
		SA	NGR	TOTAL
Pre-loaded CD Rom	Count	19	142	161
	% within the country	3.6%	20.2%	13.3%
Through Black board	Count	04	43	47
	% within the country	0.8%	6.1%	3.9%
By Post	Count	217	45	262
	% within the country	42.1%	6.5%	21.6%
Received through E-mail	Count	27	331	358
	% within the country	5.2%	47.2%	29.4%
From the school website	Count	238	79	317
	% within the country	46.3%	11.2%	26.0%
Others	Count	10	61	71
	% within the country	2.0%	8.8%	5.8%
Total	Count	515	701	1216
	Total %	100%	100%	100%

5.3.5 Distribution of respondents based on the levels of challenges encountered

Table 5.15 shows the distribution of the participants based on challenges encountered while accessing learning materials. The data on the table shows that 34.2% (417) of the respondents indicated that they experiences occasional challenge while accessing course contents/learning materials.

Table 5.15: Frequency distribution of the participants on the level of challenges (n = 1216)

Frequency of Challenges		Country		TOTAL
		SA	NGR	
Always	Count	17	89	106
	% within the country	3.3%	12.7%	8.8%
Occasionally	Count	145	272	417
	% within the country	28.1%	39.9%	34.2%
Rarely	Count	164	171	335
	% within the country	31.8%	24.3%	27.6%
Not at all	Count	174	93	267
	% within the country	33.8%	13.2%	22.0%
I don't want to say	Count	15	76	91
	% within the country	3.0%	9.8%	7.4%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.13: Graphical representation of table 5.15

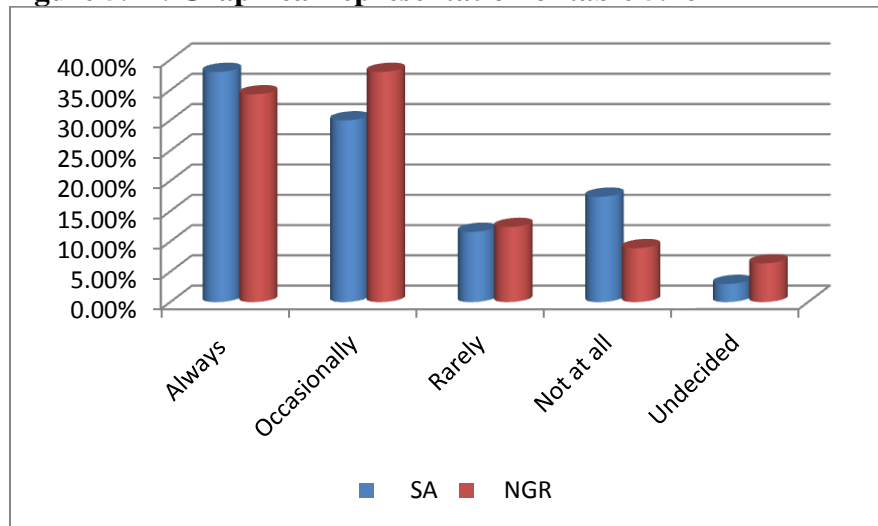
5.3.6 Distribution of respondents based on the level of internet access

Table 5.16 showed the distribution of the participants based on the frequency of internet access.

The information on the table shows that majority of the participants from the two countries (36.0%; 437) responded affirmatively that they always have access to the internet. Moreover, 34.5% (420) also indicated that they have occasional access to the internet, followed by 12.0% (147) who rarely have access to the internet.

Table 5.16: Frequency distribution of the participants on internet access level (n = 1216)

Frequency of internet access		Country		TOTAL
		SA	NGR	
Always	Count	196	241	437
	% within the country	38.0%	34.3%	36.0%
Occasionally	Count	154	266	420
	% within the country	30.0%	38.0%	34.5%
Rarely	Count	60	87	147
	% within the country	11.6%	12.4%	12.0%
Not at all	Count	90	62	152
	% within the country	17.4%	8.9%	12.5%
Rather not say	Count	15	45	60
	% within the country	3.0%	6.4%	5.0%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.14: Graphical representation of table 5.16

5.3.7 Distribution of respondents based on the major source of internet connectivity

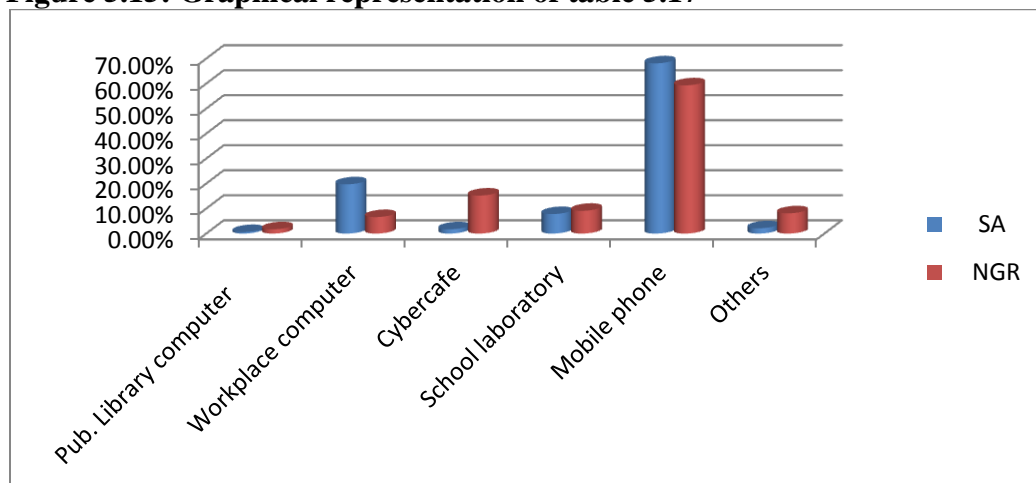
Table 5.17 shows the distribution of the participants based on the sources of internet connectivity. The information on the table shows that majority of the participants from the two countries (63.0%; 767) gained access to internet through their mobile phones ad tablets, followed by those who access internet via the computer at work (12.0%; 47). Those who indicate school laboratory as their main source of internet access are 104 in number (i.e. 8.6%), those who

selected cybercafé and public library accounted for 9.6% (116) and 1.1% (14), while those who access internet via other means are 5.7% (68).

Table 5.17: Distribution of the participants' major source of internet connectivity (n = 1216)

Sources of internet access		Country		TOTAL
		SA	NGR	
Computer at pub. library	Count	03	11	14
	% within the country	0.6%	1.7%	1.1%
Computer at workplace	Count	101	46	147
	% within the country	19.7%	6.6%	12.0%
Commercial café	Count	09	107	116
	% within the country	1.7%	15.2%	9.6%
School laboratory	Count	40	64	104
	% within the country	7.8%	9.1%	8.6%
Mobile phone	Count	351	416	767
	% within the country	68.1%	59.3%	63.0%
Others	Count	11	57	68
	% within the country	2.1%	8.1%	5.7%
Total	Count	515	701	1216

Figure 5.15: Graphical representation of table 5.17



5.3.8 Distribution of respondents based on their motivation for ODL based ITE

Table 5.18 shows the distribution of the participants based on the reasons why they chose open and distance learning based pre-service teacher training. The analysis on the table shows that majority of the participating pre-service teacher trainees from the two countries (34.2%; 416)

chose to study by distance so as to have independence of study. Other reasons include to be able to do full time work (32.7%; 397), because of the flexibility of ODL (15.9%; 193), to be able to do businesses (9.2%; 112), because of another fulltudy (5.0%; 61), and those who chose other reasons not stated were 3.0% (37)

Table 5.18: Frequency distribution of the participants based on their motivation for enrolling in ODL based teacher training (n = 1216)

Motivations for ODL based teacher training		Country		TOTAL
		SA	NGR	
To have independence of study	Count	137	279	416
	% within the country	26.6%	18.9%	34.2%
To be able to work full time	Count	205	192	397
	% within the country	39.8%	26.6%	32.7%
To be able to do business	Count	31	81	112
	% within the country	6.0%	19.2%	9.2%
Because of another full-time study	Count	12	49	61
	% within the country	2.3%	6.9%	5.0%
Because of its flexibility	Count	101	92	193
	% within the country	19.7%	21.9%	15.9%
Others	Count	29	08	37
	% within the country	5.6%	6.5%	3.0%
Total	Count	515	701	1216
	Total %	100%	100%	100%

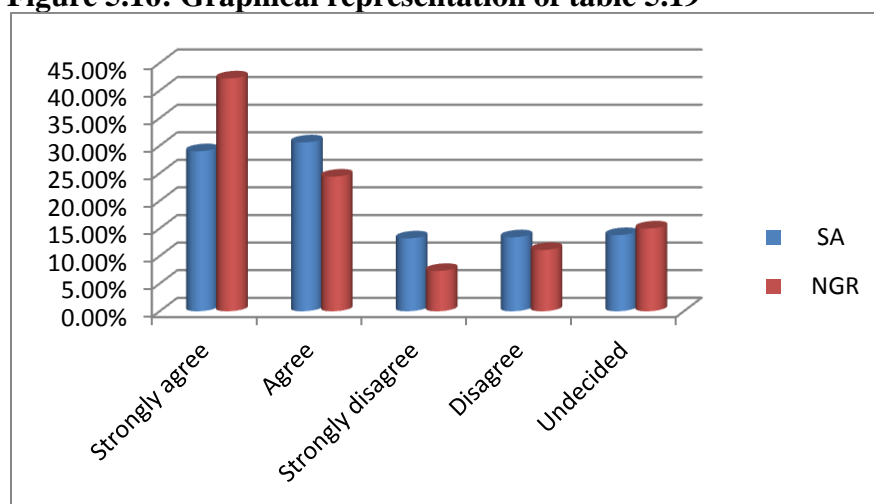
5.3.9 Distribution of respondents based on the teaching method of ODL based Universities

Table 5.19 shows the distribution of the participants based on their perception of teaching methods of their universities. The information on the table shows that majority of the participating pre-service teachers are satisfied with the teaching method of the two universities selected for the study as the 36.6% (445) strongly agreed that the delivery methods of the lecture are quite helpful to them. Furthermore, 27.0% (329) agreed, 9.9% (119) strongly disagreed, 12.0% (147) disagreed, while the 14.5% (176) remain undecided.

Table 5.19: Frequency distribution of the participants based on the teaching method of the ODL based universities (n = 1216)

The delivery methods of lectures are quite helpful	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	149	296	445
	% within the country	29.0%	42.2%	36.6%
Agree	Count	158	171	329
	% within the country	30.6%	24.4%	27.0%
Strongly Disagree	Count	68	51	119
	% within the country	13.2%	7.3%	9.9%
Disagree	Count	69	78	147
	% within the country	13.4%	11.1%	12.0%
Undecided	Count	71	105	176
	% within the country	13.8%	15.0%	14.5%
Total	Count	515	701	1216

Figure 5.16: Graphical representation of table 5.19



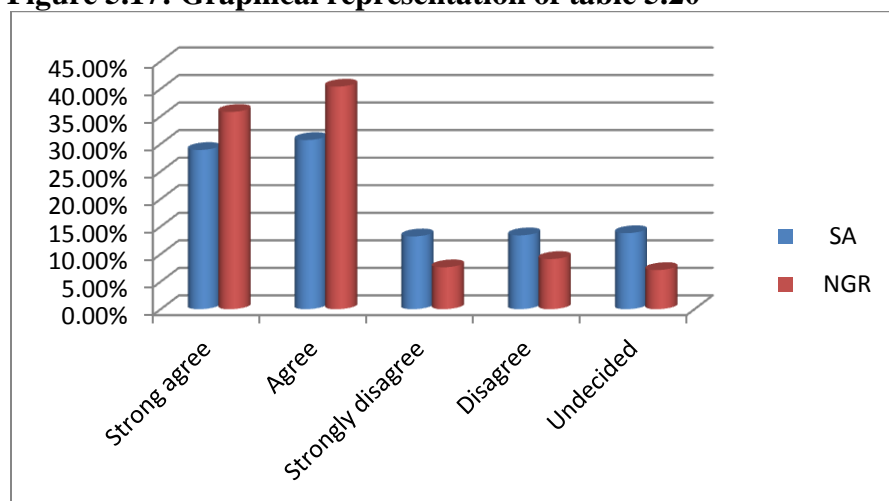
5.3.10 Distribution of respondents based on the suitability of learning materials

Table 5.20 shows the responses of the participating pre-service teachers on how effective are the text, audio, and audio-visual materials being used by their institutions on their learning. 32.8% (400) of the respondents strongly agreed that text, audio and audio-visual learning materials are quite legible for learning, while 36.2% (441) also agreed to the same. However, 20.8% (254) of the respondents disagreed, while 10% (121) of the respondents could not decide.

Table 5.20: Frequency distribution of the participants based on the suitability of online text, audio and audio-visual materials for learning (n = 1216)

The online text, audio and audio-visual materials are legible for learning	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	149	251	400
	% within the country	28.9%	35.8%	32.8%
Agree	Count	158	283	441
	% within the country	30.7%	40.4%	36.2%
Strongly Disagree	Count	68	53	121
	% within the country	13.2%	7.6%	10.0%
Disagree	Count	69	64	133
	% within the country	13.4%	9.1%	11.0%
Undecided	Count	71	50	121
	% within the country	13.8%	7.1%	10.0%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.17: Graphical representation of table 5.20



5.3.11 Distribution of respondents based on the feedback system of their university

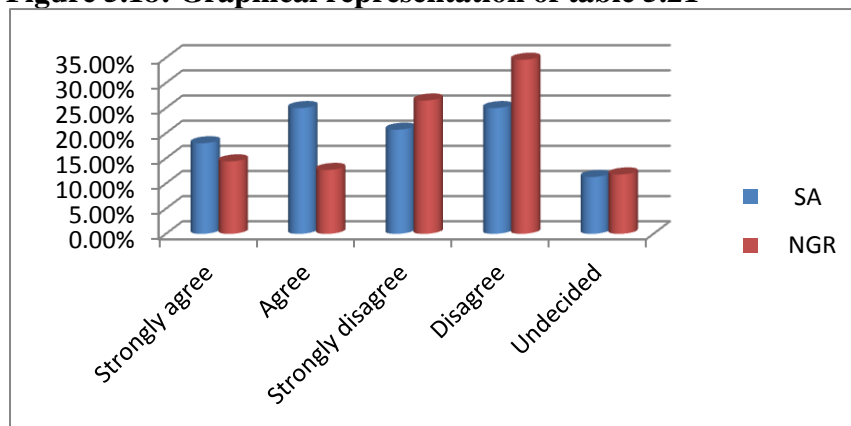
Table 5.21 shows the responses of the participating pre-service teachers on the communication and feedback system of their university. Analysis of the data obtained on the tables shows that the percentage of those who agreed (33.8%; 412) that the feedback system of their institutions is adequate are less than the percentage of those who disagreed (54.5%; 663). Although, 11.5% (141) of the respondents could not decide, the implication of this is that institutions providing

teacher training by distance must work on their communication and feedback system so as to meet the communication and feedback needs of their learners.

Table 5.21: Frequency distribution of the participants based on the communication and feedback system of the university (n = 1216)

The communication and feedback system of the university is adequate	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	93	101	194
	% within the country	18.0%	14.4%	16.0%
Agree	Count	129	89	218
	% within the country	25.0%	12.7%	18.0%
Strongly Disagree	Count	106	186	292
	% within the country	20.7%	26.5%	24.0%
Disagree	Count	129	242	371
	% within the country	25.0%	34.6%	30.5%
Undecided	Count	58	83	141
	% within the country	11.3%	11.8%	11.5%
Total	Count	515	701	1216

Figure 5.18: Graphical representation of table 5.21



5.3.12 Distribution of the respondents based on their use of learning technology to teach

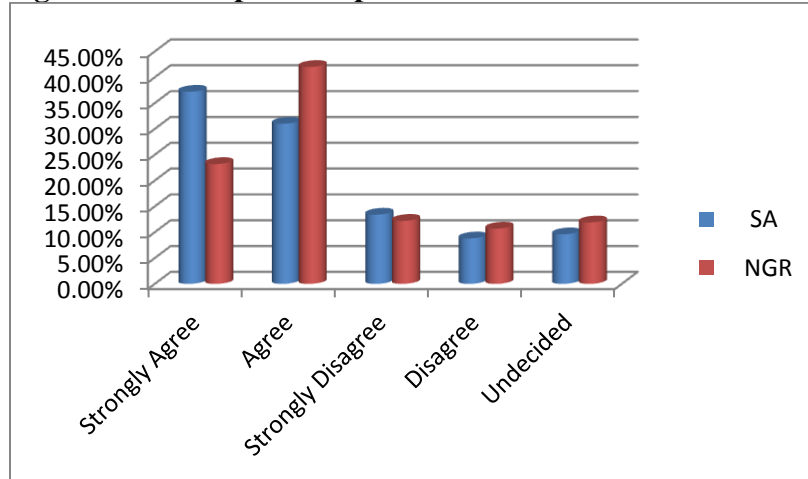
Table 5.22 shows the responses of the participating pre-service teachers on their capability to use technology to teach during practice teaching. Majority of the respondents from the two countries (66.5%; 809) as shown on the table agreed that they were able to use technology learning

resources to teach in the classroom, while 22.6% (275) disagreed. However, 10.8% of the respondents could not decide.

Table 5.22: Frequency distribution of the participants based on the use of learning technology during teaching practice (n = 735)

Student teachers are able to use technology resources to enhance learning during practice teaching	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	192	162	354
	% within the country	37.2%	23.2%	29.1%
Agree	Count	160	295	455
	% within the country	31.0%	42.0%	37.4%
Strongly Disagree	Count	69	86	155
	% within the country	13.4%	12.2%	12.8%
Disagree	Count	45	75	120
	% within the country	8.8%	10.7%	9.9%
Undecided	Count	49	83	132
	% within the country	9.6%	11.9%	10.8%

Figure 5.19: Graphical representation of table 5.22



5.3.13 Distribution of respondents based on their use of laboratory for practical session

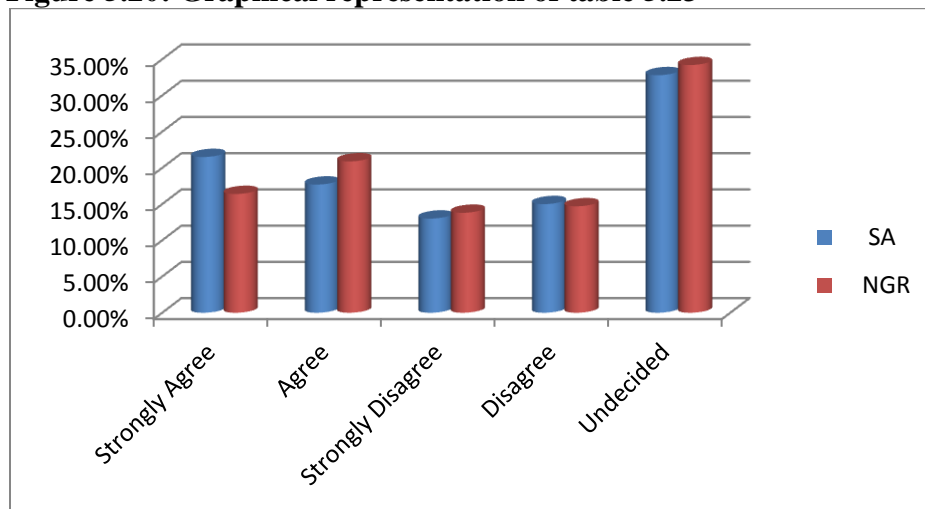
Table 5.23 presents the distribution of the participants based on their use of laboratory for practical sessions. The analysis on the table shows that 38.0% (463) of the respondents agreed that they were able to use laboratory for practical sessions despite being in a distance learning

based teacher training, while 28.2% (334) disagreed. However, majority of the respondents could not decide (33.6%; 409), perhaps due to the fact that their specialization has nothing to do with laboratory practical.

5.23: Frequency distribution of the participants based on the use of laboratory for practical sessions (n = 1216)

Student teachers are able to use laboratory for practical sessions	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	111	115	226
	% within the country	21.5%	16.4%	18.7%
Agree	Count	91	146	237
	% within the country	17.7%	20.9%	19.4%
Strongly Disagree	Count	67	97	164
	% within the country	13.0%	13.8%	13.5%
Disagree	Count	77	103	180
	% within the country	15.0%	14.7%	14.8%
Undecided	Count	169	240	409
	% within the country	32.8%	34.2%	33.6%

Figure 5.20: Graphical representation of table 5.23



5.3.14 Distribution of respondents based on the sources of practical

Table 5.24 presents the distribution of the participants based on their sources for accessing practical sessions. 17.8% (216) of the respondents access practical through their universities'

laboratories, while 15.8% (192) have access to the CD Rom containing practical sessions. Moreover, 11.6% (142) usually visit private laboratory to do practical, while 10.8% gain access to practical sessions via web-based practical platforms. 10.7% (13) of the participants did not have access to practical of any sort, while practical session is not applicable to the specializations of the 33.3% (405) of the respondents.

Table 5.24: Frequency distribution of the participants based on the major source of accessing practical (n = 1216)

Available sources of practical exercise	Country		TOTAL
	SA	NGR	
Video clips on CD Rom Count	111	81	192
% within the country	21.6%	11.6%	15.8%
University based laboratory Count	114	102	216
% within the country	22.1%	14.5%	17.8%
Private laboratory Count	49	93	142
% within the country	9.5%	13.2%	11.6%
Web-based virtual experimentation Count	39	92	131
% within the country	7.6%	13.2%	10.8%
No access to practical Count	33	97	130
% within the country	6.4%	13.8%	10.7%
Not applicable Count	169	236	405
% within the country	32.8%	33.7%	33.3%
Total %	100%	100%	100%
Total Count	515	701	1216
Total %	100%	100%	100%

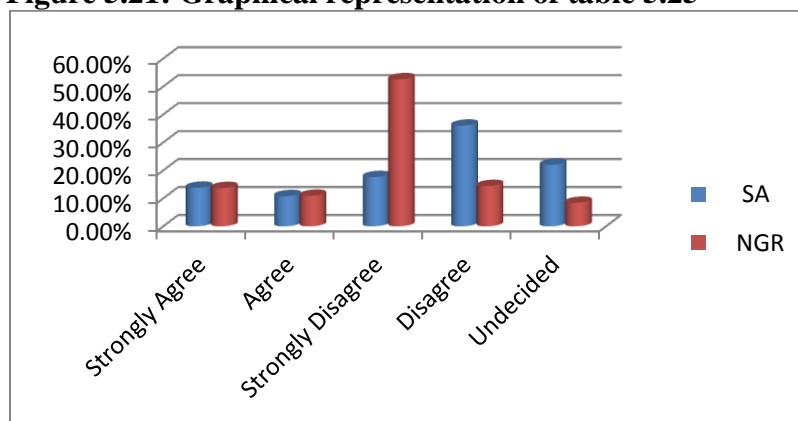
5.3.15 Distribution of respondents based on their perceptions of lack of face-to-face lectures

Table 5.25 presents the distribution of the participants based on their perceptions of non-availability of constant face-to-face lectures, one of the main distinguishing factors between ODL and conventional institution based learning. The analysis of the data shows that majority of the respondents (61.3%; 746) disagreed to the notion of non-availability of constant face-to-face lectures as a limiting factor to their performance. However, 298 (24.5%) of the respondents agreed, while 172 (14.1%) could not decide.

Table 5.25: Frequency distribution of the participants based on their perceptions of non-availability of face-to-face lectures (n = 1216)

Not having constant face-to-face lectures is limiting the performance of student teachers	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	71	95	166
	% within the country	13.8%	13.7%	13.6%
Agree	Count	55	77	132
	% within the country	10.8%	10.9%	10.9%
Strongly Disagree	Count	91	369	460
	% within the country	17.6%	52.6%	37.8%
Disagree	Count	185	101	286
	% within the country	36.0%	14.4%	23.6%
Undecided	Count	113	59	172
	% within the country	22.0%	8.4%	14.1%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.21: Graphical representation of table 5.25



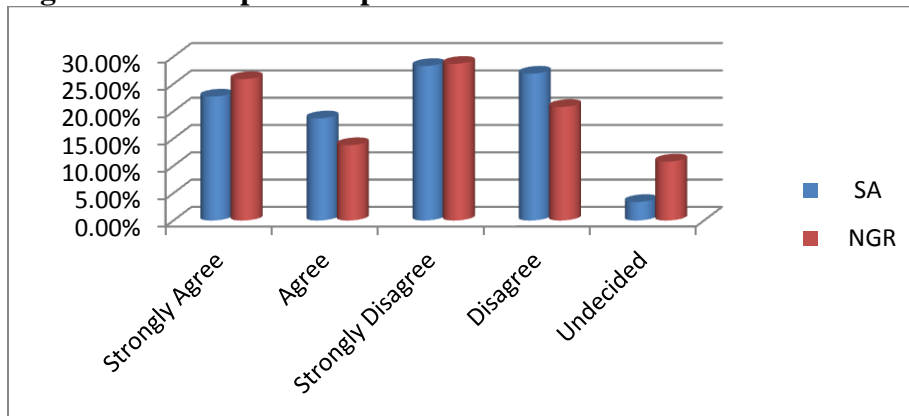
5.3.16 Distribution of respondents based on their perceptions of contact with lecturers

Table 5.26 presents the distribution of the participants based on their perceptions of non-availability of physical contacts with facilitators. Although the majority of the respondents from the two countries (51.8%; 631) disagreed that not having constant face-to-face interactions with facilitators is affecting their studies, a significant number of them (40.3%; 491) agreed while 7.8% (94) could not decide.

Table 5.26: Frequency distribution of the participants based on contacts with lecturers (n = 1216)

Not having physical contact with lecturers is limiting students' performance	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	117	181	298
	% within the country	22.7%	25.9%	24.5%
Agree	Count	96	97	193
	% within the country	18.7%	13.8%	15.8%
Strongly Disagree	Count	146	201	347
	% within the country	28.3%	28.7%	28.6%
Disagree	Count	138	146	284
	% within the country	26.9%	20.8%	23.3%
Undecided	Count	18	76	94
	% within the country	3.4%	10.8%	7.8%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.22: Graphical representation of table 5.26



5.3.17 Distribution of respondents based on their perceptions of support staff

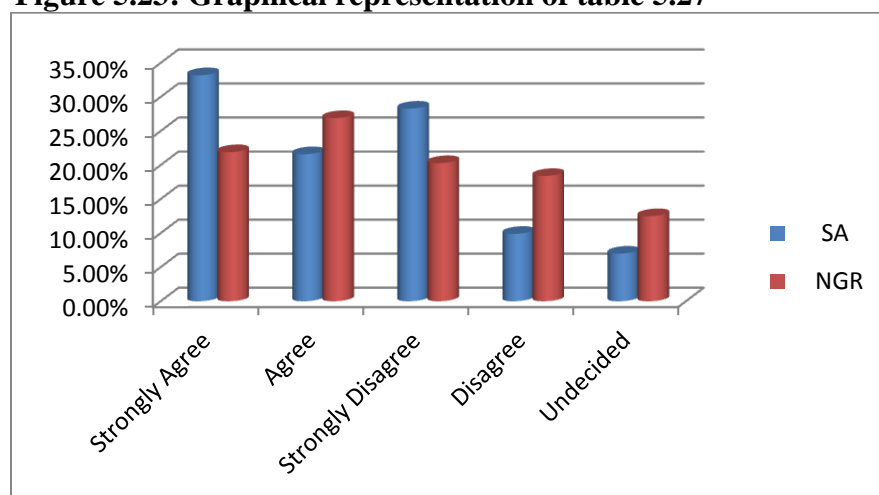
Table 5.27 presents the distribution of the participants based on their perceptions of support staff.

The information on the table shows that the majority of the participants (51.3%; 624) agreed that support personnel in their institutions are diligent in giving feedback to the learners, while 38.5% (469) disagreed, and 10.1% (123) could not decide.

Table 5.27: Frequency distribution of the participants based on their experiences with support staff (n = 1216)

The support staff members are diligent in giving feedback to student teachers when needed.	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	171	154	325
	% within the country	33.2%	21.9%	26.7%
Agree	Count	111	188	299
	% within the country	21.6%	26.9%	24.6%
Strongly Disagree	Count	146	143	289
	% within the country	28.3%	20.3%	23.8%
Disagree	Count	51	129	180
	% within the country	9.9%	18.4%	14.8%
Undecided	Count	36	87	123
	% within the country	7.0%	12.5%	10.1%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.23: Graphical representation of table 5.27



5.3.18 Distribution of respondents based on their perceptions of ODL based teacher training

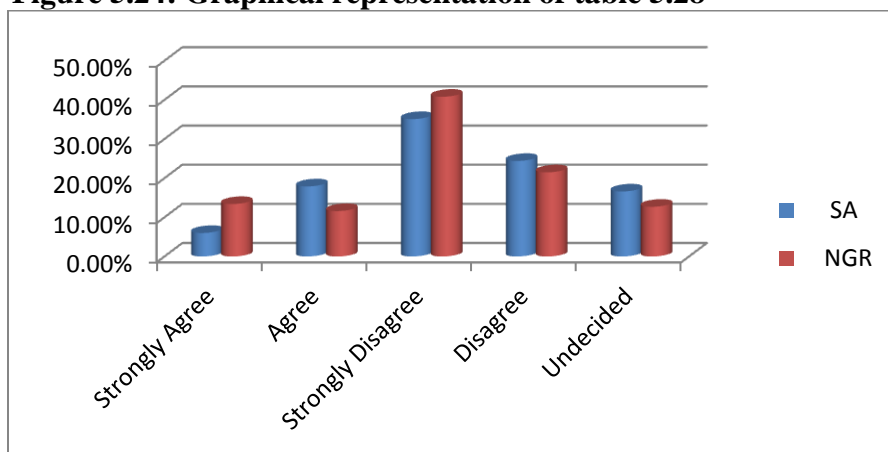
Table 5.28 presents the distribution of the participants based on their perceptions of teacher training by distance. The analysis of the data shows that majority of the respondents disagreed (SA: 38.4%; 467 & A: 22.8%; 277) to the notion that open and distance learning based teacher

training is less engaging, while 24.5% of the respondents (SA: 10.3%; 125 & A: 14.2%; 173) agreed. However, 14.3% (174) could not decide.

Table 5.28: Frequency distribution of the participants based on their perceptions of distance learning based teacher training programme (n = 1216)

I perceive ODL based teacher training to be less-engaging	Count & Percentages	Country		TOTAL
		SA	NGR	
Strongly Agree	Count	31	94	125
	% within the country	6.0%	13.4%	10.3%
Agree	Count	92	81	173
	% within the country	17.9%	11.6%	14.2%
Strongly Disagree	Count	181	286	467
	% within the country	35.1%	40.8%	38.4%
Disagree	Count	126	151	277
	% within the country	24.4%	21.5%	22.8%
Undecided	Count	85	89	174
	% within the country	16.6%	12.7%	14.3%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.24: Graphical representation of table 5.28



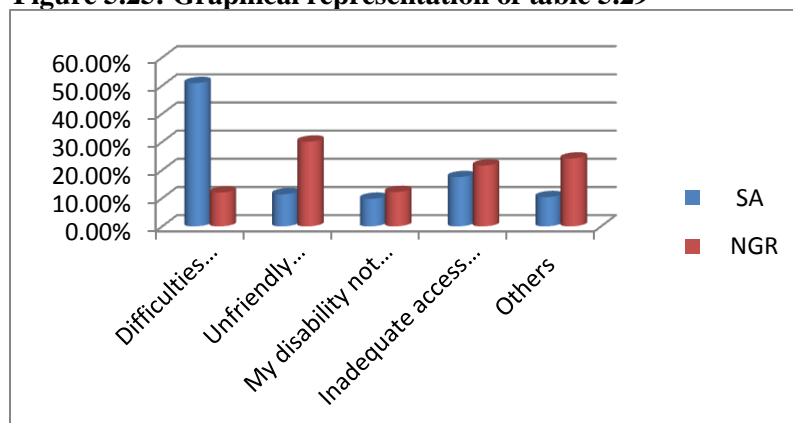
5.3.19 Distribution of respondents based on the challenges they encounter during their studies

Table 5.2.9 presents the distribution of the participants based on the challenges they encounter during the course of their teacher training. Majority of the pre-service teacher trainees (50.9%) sampled from South Africa identified difficulties in reaching the support staff members of their institution as their major challenge, while majority from Nigeria highlighted unfriendly learning technologies (30.1%) and inadequate access to the internet (21.6%) as their major challenges. These challenges and others highlighted on the table with possible solutions were discussed in details in the Chapter seven of the study.

Table 5.29: Frequency distribution of the participants based on challenges they encounter during the course of their training (n = 1216)

The most challenging for me is	Count & Percentages	Country		
		SA	NGR	
Difficulties reaching support staff	Count	262	84	346
	% within the country	50.9%	12.0%	28.4%
Unfriendly learning technologies	Count	59	211	270
	% within the country	11.4%	30.1%	22.2%
My disability not recognized	Count	50	86	136
	% within the country	9.8%	12.2%	11.1%
No constant access to internet	Count	90	151	241
	% within the country	17.5%	21.6%	19.8%
Others	Count	54	169	223
	% within the country	10.4%	24.1%	18.3%
Total	Count	515	701	1216
	Total %	100%	100%	100%

Figure 5.25: Graphical representation of table 5.29



5.4 Summary

This chapter presented the analysis of quantitative data based on the questionnaire responses. The demographic characteristics of the participants revealed that majority of pre-service teachers that participated in the study are young people between 18 and 29 years of age. The analysis also showed slight differences in gender of the participants from the two countries. For instance, majority of the participants in South Africa are female, while in Nigeria, male participants formed the majority. Also worthy of note is the occupational status of the participants which revealed a larger percentage of the ODL based pre-service teacher trainees to be unemployed. Regarding the motivating factors to choose distance learning based pre-service teacher training, majority of the participants from the two countries identified intention to have independence of study as well as the opportunity to work full time while studying as the major reasons why they decided to enrol for pre-teacher training by distance. When it came to the methods of receiving learning materials, majority of the participants indicated online platforms like email, school websites, and specialized designed portals for teaching and learning.

Moreover, results from the questionnaire responses also revealed that the ODL based pre-service teacher trainees are always visited by their lecturers and supervisors for teaching practice evaluation, just like their counterparts studying in the campus-based universities.

Further analysis of the quantitative data revealed that ODL based pre-service teacher trainees are faced with some challenges which include inadequate computer and internet knowledge, financial incapability, inadequate support and feedback system, and disability in some of the learners which are not catered for by their universities. However, despite the challenges, majority

of the participants did not have any sense of regret for being in the ODL based pre-service teacher training programme.

The next chapter presents the analysis of the qualitative data collected through interviews.

CHAPTER SIX

PRESENTATION OF QUALITATIVE DATA

6.1 Introduction

The major objective of this chapter is to present the results of the interview that provided further answers to the research questions 2, 3 and 4. Triangulation, as noted by Ngulube (2015), is of high relevance to qualitative and quantitative research because it enhances trustworthiness, validity and reliability of quantitative studies. Thus, the present study employed triangulation as a way of getting further facts that could help in authenticating the findings in Chapter Five, which presented the results of the quantitative data gathered through questionnaire.

Three (3) academic staff and two (2) support staff members were purposively selected from the School of Education of the two ODL based universities, making the total number of six (6) academic staff and four (4) support staff members interviewed. As noted earlier, the interview focused majorly on the three research questions of the study. The alignment of the research questions with the interview questions was highlighted in the Table 6.0.

Table 6.1:Alignment between the interview questions and research questions

SN	Research Questions	Interview Questions
RQ2.	What are the methods and channels being employed by the ODL-based institutions to train pre-service teachers?	(10) Kindly discuss various types of support services that are available to your learners, especially the teacher trainees? (11) How do you conduct practical

		<p>for your science subject based student teachers?</p> <p>(14) What methods and tools are used in conducting practical for your student teachers?</p>
RQ3.	How do these student-teachers put into practice in the classroom what they have learnt through distance delivery mode?	<p>(15) What is the most used channel of communication and feedback to and from your student teachers?</p> <p>(16) Just like the case of the teacher training programme in conventional universities, do your student teachers observe the seasonal teaching practice exercise?</p> <p>(17) If yes, what method do you use to assess their teaching practice?</p>
RQ4.	What challenges are facing the ODL-based teacher training institutions and what improvement can be suggested?	<p>(7) Are there things hindering you from performing your duties effectively?</p> <p>(8) If yes, what are they?</p> <p>(9) From your experience, how do you think these hindrances can be removed?</p> <p>(18) Have you ever identified common shortcomings among your student teachers on teaching practice?</p> <p>(19) If yes, what are these shortcomings?</p> <p>(20) How do you think these</p>

		<p>shortcomings can be addressed?</p> <p>(21) From your experience, what can you point to as major differences between pre-service teachers trained by distance and those trained through the traditional campus-based system?</p>
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The information on the table 6.2 to 6.7 represented the transcribed interview responses supplied by the academic and support staff members in the two ODL based universities.

6.2 Demographic characteristics of the interviewees

Data collected in this section mainly focused on the qualifications of the participants, designations, duties and years of work experience.

Table 6.2: Characteristics of the academic and support staff interviewed in South Africa and Nigeria (N = 10)

S/N	Gender	Highest Qualifications	Designations	Duties	Country
1.	Male	D.Ed.	Senior Lecturer	Teaching, research, Community outreach, academic citizenship, and networking	South Africa
2.	Female	D.Ed.	Senior Lecturer	Teaching of undergraduate and postgraduate students, supervising dissertations and theses, community	South Africa

				service	
3.	Male	PhD	Associate Professor	Teaching, research supervision, community service	South Africa
4.	Female	PhD	Senior Lecturer	Teaching of undergraduate and postgraduate students in the Faculty of Education, research and publication, community service.	Nigeria
5.	Male	PhD	Senior Lecturer	Teaching, supervising, research, community service and examinations coordination	Nigeria
6.	Male	PhD	Senior Lecturer	Teaching, research and community service	Nigeria
7.	Male	B.A.	Admin Officer/Tutorial Assistant	Administrative support service to students and facilitators, general administrative works	South Africa
8.	Female	Diploma in Office Admin.	Student Admin Officer	Providing/receiving feedback to & from the students, communicate to students via telephone or email,	South Africa
9.	Female	B. Sc.	Higher Admin Officer	Responsible for keeping/updating practice teaching record of students, general administrative functions.	Nigeria
10.	Male	M.Ed.	Student	Coordinating/advising	Nigeria

			Counsellor	students on the choice of teaching subjects, providing feedback to students, coordinating tutorials.	
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Table 6.2 above shows the basic characteristics of the academic and support staff members interviewed in the two ODL based universities under review. The distribution of the interviewees was done on equal basis , i.e. three (3) academic and two (2) support staff members from each of the two ODL based universities. The table revealed that all the six (6) academic staff members interviewed from the two universities possessed doctorate degree which is the highest academic qualification required to teach in the university. Also, four (4) of the academic members interviewed are male, while two (2) are female. For the support staff, however, two (2) are males, while the remaining two (2) are females. Two interviewees possessed Bachelor's degree; one (1) possessed an Administrative Diploma, while the remaining one possessed a Master of Education (M.Ed.) degree.

6.3 What types of support services are available to your learners, especially the teacher trainees?

The reason for this question was to find out about different support services that are available to pre-service teacher trainees in the two ODL universities selected for the study

Table 6.3: Support services available (N=10)

South Africa	Nigeria	Remarks
<p>*There are constant communication and feedback channels available to our students via internet, emails and designated telephone lines. The communication/feedback services enable students, especially teacher trainees to supply and get information on their lecture notes, teaching practice exercises, field evaluation and examinations</p> <p>* There are academic literacy programmes that focus mainly on supporting our distance learners right from the undergraduate level up to the Doctoral degree level. These academic literacy services are majorly designed to enhance the reading, writing, numeracy and information literacy skills of our students</p> <p>* We provide free internet access to a wide range of our students through the Tele-centres, geared towards enabling our students, especially those that are located in</p>	<p>* Because of the fact that we deal mainly with distance learning students, we provide psycho-social counselling services to our students on career choice and how to balance working full time with studying by distance. We do this on daily basis because we have a strong counselling unit (where I work) that provides these services to the needy students.</p> <p>* Our students enjoy occasional face-to-face tutorial classes despite being in distance learning, and this avenue provides opportunities for students to meet with their lecturers/facilitators that they have been interacting with virtually in a classroom setup, at different study centres established by the institution nationwide. Similar to this is the face-to-face practical sessions which are available to our science based students</p>	<p>This question was directed at both academic and support staff members in the two universities. This was done in realisation of the fact that support services can be both academic and non-academic.</p> <p>The analysis of the interview responses transcribed shows that academic and support staff members in the two ODL based universities identified counselling services, communication/feedback channels, academic support programmes, funding opportunities, and tutorial programmes as the services available in the universities that support the teaching and learning activities.</p>

<p>rural areas, to gain constant access to computers and internet facilities they can use for academic purposes.</p> <p>* Our students have access to funding opportunities to cover the cost of their studies which include payment of tuition, buying of books as well as subsistence. This is done through loans and bursaries which are usually awarded to financially needy and academically deserving students to ease them of the stress of worrying about paying for studies.</p> <p>* We provide tutorial services to our students to enhance their learning through the help of face-to-face and e-tutors, who are qualified individuals in various modules in which they are engaged to tutor. Face-to-face tutors relate with students at different designated centres where students interact with them physically, while e-tutors relate with students on a virtual platform. This tutorial opportunity</p>	<p>where they have the opportunity of visiting the university laboratories to conduct their practical sessions.</p> <p>* We also provide specialised teaching-learning services to our learners that are living with disabilities, incarcerated individuals in the prisons; as well as learners residing in underserved communities across the nation.</p> <p>* There are available special academic support services for the learners that are lagging behind in their studies as we recognize different abilities and capabilities in our learners. Such services include after-class mentoring, special tutorial classes, and peer-group learning arrangements, among others.</p> <p>* We give our students opportunities to visit our campus and access the institution's library and</p>	
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also allows students create study groups with the aim of finding ways to interact, collaborate and learn from one another.	Information Resource Centre whenever they feel to do so. This also enables the teacher trainees to gain access to the journals and lesson plans of previous students and this further guide them on what is expected of them during teaching practice.	
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Note: N=10 means 10 participants were interviewed for this question

6.4 How does your institution conduct practical sessions for science based teacher trainees?

This was to find out if the science-based teacher trainees by distance have access to essential practical activities like their counterparts in the conventional universities. The science based teacher trainees include those that are studying to teach Science subjects like Physical and Heath Education, Computer Science, Biology, Chemistry, Physics, and Geography, among others.

Table 6.4: Sources of practical for science based pre-service teachers (N=4)

South Africa	Nigeria	Remarks
<p>* We usually organize block sessions for them to come to the campus for practical sessions where they gain access to campus-based laboratories and computer systems. They also have the opportunity of interacting face-to-face with their lecturers/facilitators during and after their practical experiences.</p> <p>* For those in Science Education unit, we allow them to come to campus to use campus based practical equipment and laboratories. Some of them on practice teaching also gain access to the laboratories in their respective schools where they conduct experimentations together with their learners.</p>	<p>* We take practical seriously in our university because we know that many scientific terminologies/concepts remain abstract to students until they perform the experiments that are required to make them real in their minds. To make this happen, we encourage our students to come to the university where laboratories and other materials needed for practical are available.</p> <p>* Some of our study centres also served as practical centres where our students attend practical classes. Prior to the practical session, a document called ‘Laboratory Exercises Manual’ is prepared by the facilitators and made available to students in a workbook format. This will be used by the concerned students for noting down observations and</p>	<p>Four (4) academic staff members who teach Science Education modules were interviewed for this question because they are the ones directly concerned with the issue of practical.</p> <p>From the analysis of the interview questions, the researcher established that practical activities for the science based teacher trainees are done majorly on campus, just the same way it is done for their counterpart in the conventional institutions.</p> <p>The responses of the participants further revealed that the two universities prioritises contact-based practical activities for their teacher trainees despite studying by distance. This is done so they will not lack the important skills of being</p>

	<p>writing reports concerning each exercise as the practical is going on</p>	<p>competent science teachers. This is in line with the submission of Woodley (2009) that notes that qualitative practical activity can engage learners, enable them to develop vital skills, help them to comprehend the process involved in conducting scientific inquiry, and further expand their knowledge and understanding of phenomenon or concepts.</p>
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Note: N=4 means 4 participants were interviewed for this question

6.5 What are the most used channels of communication and feedback to and from your student teachers?

The question was asked to identify various channels of communication and feedback that are available to student teachers.

Table 6.5: Channels of communication/feedback to and from pre-service teachers (N=10)

South Africa	Nigeria	Remarks
<p>* We leverage on the available Information and Communication Technology (ICT) platforms like internet, e-mail, and telephone to reach out to our students, and also to receive feedback from them.</p> <p>* Communicating with our students, especially with those on teaching practice exercise is majorly done via electronic mail. The designated staff of the university usually sent email to the individual student teacher to pass generic or specific information across to them either based on what is expected of them in their respective schools or pertaining to the evaluation of the exercise.</p> <p>* University website is always updated to broadcast information to our students from time to time. In addition to this, tutorial letters are prepared by the university and sent to the concerned student teachers through their email addresses</p>	<p>*Virtual communication channels like electronic mail and e-newsletters are the main platforms used by both students and institution to communicate and receive feedback from one another</p> <p>* Student teachers have access to online based journal where they record their teaching practice experiences and this journal is accessible to the facilitators in charge of teaching method modules.</p> <p>* When it is necessary to do so, some vital information are passed across to each course leaders, also known as course representatives to disseminate with other students in a particular centre where the leader is located.</p> <p>* The university has a radio station where information is disseminated to the entire</p>	<p>All academic and support staff members in the two universities responded to this question on communication and feedback channels.</p> <p>The interview participants acknowledged the significant role of Information and Communication Technology (ICT) in enhancing communication and feedback services in their universities. This corroborates the findings of de la Pena-Bandalaria (2007) which note that ICT has had a significant impact on open and distance learning worldwide, as it enables easy and affordable access to information and feedback services between the distance learning institutions and the distance learners.</p>

<p>* Social media platforms have really made our communication and feedback services easier and better. Social media channels like Twitter, Facebook, and Youtube are great platforms through which we reach out to our students. The students also have the opportunity of asking questions online and receiving instant feedback.</p> <p>* It would be of interest to you to note that each of the cohort of student teachers have interactive Facebook group platforms where they discuss issues that affects their studies and careers as teachers. There is also a student portal designed by the university, not only to communicate with students but also to receive feedback from them.</p>	<p>students. The radio station is also used to broadcast lecture series to the students from time to time.</p> <p>* The staff in charge of professional practice sometimes place telephone calls across to the concerned students when it becomes necessary to do so. This happens often during the teaching practice exercise when an urgent information is needed to be passed across to the concerned student teachers.</p>	
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Note: N=10 means 10 participants were interviewed for this question

6.6 Do your student teachers observe practice teaching exercise?

The was to find out if the teacher trainees in ODL based teacher training universities have opportunity of undergoing professional practice before they graduate.

Table 6.6: Teaching practice exercise among teacher trainees by distance (N=6)

South Africa	Nigeria	Remarks
<p>* Yes, they are required to do teaching practice and the supervising lecturers visit them regularly in their schools to observe, evaluate and grade them.</p> <p>* Teaching practice is a crucial aspect of teacher training that cannot be skipped for whatever reason. We take this aspect seriously for all our students undergoing pre-service teacher training programme from the first year to their final year of studies.</p> <p>* All the students studying to gain teaching qualifications from Foundation level to FET level have practice teaching as a compulsory component of their studies.</p>	<p>* Yes, teaching practice exercise is compulsory for all our student teachers before they graduate from this university. The teacher trainees are expected to undergo this twice, i.e. when they are in their second and third year of their studies.</p> <p>* Without teaching practice experience, No teaching qualification will be awarded and that is why we do not joke with this exercise.</p> <p>* Yes, we do encourage our teacher trainees to undergo TP in schools because it is from there that they will acquire necessary practical skills and classroom experiences needed to be professional teachers.</p>	<p>The six (6) academic staff members selected for interview were asked this question and from the analysis of their responses, they all agreed that teaching practice exercise is a crucial component of their pre-service teacher training programmes.</p>

Note: N=6 means 6 participants were interviewed for this question

6.7 What method do you use to assess your students' practice teaching exercise?

This was to find out the different techniques used by the ODL based universities to evaluate their teacher trainees during teaching practice. It was also to establish if there are techniques used that are different to the ones being used in the conventional universities.

Table 6.7: Techniques of evaluating teaching practice (N=6)

South Africa	Nigeria	Remarks
* We do visit schools where our teacher trainees are placed for teaching practice exercise. This is done on an arranged basis as lecturers are assigned to different locations across the country for this exercise. The lecturers who are appointed to evaluate student teachers look for some certain qualities in them during assessment. Such skills and qualities include the classroom management skills, communication and voice projection, appearance and professionalism, establishment of prior knowledge of learners before commencing new lesson, and involvement of learners in teaching-learning activities, among others	* Assessment of teaching practice exercise is the responsibility of all Lecturers in the Faculty of Education. After the initial placement of student teachers in different schools, specific dates are fixed and communicated to them towards the assessment of their classroom based practice teaching. Prior to this, each student teacher is given a file that contains template for lesson plan and other important documents to use during this important field work exercise. The assessment starts from these documents as lecturers who are supervisors are usually interested in looking at the	<p>The question on the assessment techniques of teaching practice exercise was posed to the six (6) academic staff members that participated in the interview.</p> <p>Their responses revealed school visit and analysis of practice teaching materials such as lesson plans, teaching aids and journals as major techniques used to assess teacher trainees during teaching practice exercise.</p> <p>Moreover, their responses established the fact that teaching practice</p>

<p>* Assessment of the student teachers during their practice teaching is usually done through school visits. First of all, teacher trainees are placed in different primary and high schools depending on the qualification for which they enrolled. For instance, if a student enrolled for a Bachelor of Education (B.Ed.) Foundation Phase, his or her practice teaching experience will be in either a Pre-primary school environment or in the Foundation Phase of an elementary school.</p> <p>* Yes, evaluation of our student teachers is another core area of assessing their competencies and readiness for professional teaching. The university usually appoints lecturers as supervisors to assess student teachers on teaching practice. However, on some special occasions, university may liaise with the schools through subject teachers who are also known as subject mentors to carry out the assessment of the student teachers during the</p>	<p>file first, especially the lesson plans, before observing the classroom teaching of a student teacher.</p> <p>* Teaching practice exercise is seen as compulsory because of the view that there is need for professionally trained teachers to teach in our Schools. Before a teaching qualification is awarded to any student, he or she must have undergone and be assessed for practice teaching. The techniques used to assess our students' teaching practice exercises are not different from those being used in the conventional universities and other teacher training institutions. The main method is the school visit which involves the visitation of supervisors to schools.</p> <p>* The ability of student teachers to prepare and deliver lessons in the classroom is the core value of any teaching practice</p>	<p>evaluation is meant to ascertain the competencies and readiness of the teacher trainees to join the teaching profession. Oyekan (2000) supported this position by stating that teaching practice exercise is a pre-service professional training for interested individuals, aspiring to become professional teachers with the aim of contributing to sustainable human capacity development.</p>
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exercise.	exercise. Our assessment is based on the ability of student teachers both to prepare and deliver lessons in the real life classroom situations. This is done mainly by school visits and observation of lesson plans, instructional materials and other documents for teaching-learning activities prepared by each and every student teacher involved in the exercise.	
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Note: N=6 means 6 participants were interviewed for this question

6.8 Have you ever identified a common challenge facing your student teachers?

This aimed to find out the challenges facing teacher trainees by distance in the selected universities and countries.

Table 6.8: Common challenge among teacher trainees by distance (N=10)

South Africa	Nigeria	Remarks
<p>*They are not getting enough institutional support in terms of having adequate virtual interactions and feedback from the facilitators and support staff because many of them have complained about this and I think the university must do something about this situation.</p> <p>* Not having adequate classroom practice is one of the challenges facing our pre-service teacher trainees because many of them combine working full time with studying, so they have limited time to do practical. Another challenge that is common among them is the one related to internet accessibility as many of them, especially those from the rural communities, do complain of not having adequate access to the internet. What I do sometimes is to print out</p>	<p>* The main challenge that I see is that many of our students now demand for more classroom based lectures due to the fact that we are beginning to have more young people showing interest in distance learning. We do let them know that the university is ODL based and the operation is quite different from the traditional classroom based institutions. I think some of the younger learners enrolled for ODL teacher training programme because they could not get admission space in the conventional universities.</p> <p>* Many of our pre-service teacher trainees are not</p>	<p>The question was directed at both the academic and support staff members in selected ODL based universities (10 in number) interviewed for this study.</p> <p>The summary of the responses from the participants in South Africa indicated funding problem, inadequate computer literacy skills, demand for constant face-to-face lectures, and lack of schools and institutional support.</p> <p>The challenges</p>

<p>some of the materials that are already on the internet and post them to the students concerned but it would still take sometimes to get to these students.</p> <p>* Many of them complain of inadequate funding because of their inability to secure NSFAS. Due to the fact that majority of students enrolling for open and distance learning come from the less-privileged background, they require funding support to be able to complete their studies and many of them have suspended their studies to go and work somewhere due to inadequate funding to support their studies</p> <p>* Well, I think many of the challenges they face are not peculiar to them alone as students in the conventional universities also face similar problems. It is quite surprising that majority of our learners are demanding for more face-to-face lectures despite knowing quite well that they are in for distance learning programmes. Although the university has done quite well in engaging the services of face-to-face and online tutors who meets with the students occasionally to have live interactions with them based on their</p>	<p>getting enough support in high schools to do their teaching practice and I think this institution should do something about that.</p> <p>* One main challenge I see in some of the students is lack of dedication and commitment to their studies perhaps due to the fact that many of them are engaged with one occupation or the other. Some also have the fear of where to work with their distance learning degrees after graduation.</p> <p>* Many of the teacher trainees find it difficult coping with the teaching practice exercise as many of them thought being in ODL teacher training programme means they will not observe the compulsory TP exercise. This opinion is held by some of them that are engaged in civil service and corporate organizations with little or no chance of study leave.</p>	<p>identified by the Nigerian participants were quite similar to those of South Africa, except the identification of lack of dedication to studies on the part of students.</p>
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<p>courses and other issues affecting their studies but most of the complaints we get from them are about the demand for more classroom-based lectures.</p> <p>* I think the level of computer literacy in many of them is still very low because we have many of our students that are still struggling with computer. As a tutorial officer, I have personally put some of them through on some basic use of computer and the internet but you find out that they still come back to request for help on the same issues over and over again. I think some of them have what I call 'Cyber-phobic' because they do not want to touch computer nor relate with the internet.</p>	<p>* Some of the students that are unemployed are finding it difficult to cope with their studies due to financial challenges. Many of them could not apply for their States and Local Governments bursary because they are in ODL programme.</p>	
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Note: N=10 means 10 participants were interviewed for this question

6.9 How do you think these challenges can be addressed?

This question was asked purposely to find out the possible solutions to the challenges highlighted by the participants that face pre-service teacher trainees by distance.

Table 6.9: Addressing the challenges facing teacher trainees by distance (N=10)

South Africa	Nigeria	Remarks
<p>* I think more Tele-centres need to be established in rural areas where most of our students come. This will surely give more accessibility to the internet for students in the area. The Tele-centres can also assist in training some of these students so as to address the problem of Cyber-phobia and computer illiteracy in them.</p> <p>* The university can take the teaching practice supervision more seriously by engaging some additional hands to join the university staff as supervisors. This will ensure that each student teacher is observed and evaluated at least twice before the end of the exercise. It will also encourage the teacher trainees to stay in schools for longer period than what it is now.</p> <p>* More institutional supports need to be available for the distance learners, especially those that are studying to become professional teachers. We</p>	<p>* I think this university is trying all its best to address some of these problems. I mean the one that can be addressed at the level of institution. But I will say that adequate funding should be provided for the institutions running ODL programmes, especially those that are training teaching manpower for the nation. This will enable the institutions to engage more hands to monitor and supervise teacher trainees during teaching practice.</p> <p>* There is need to create more awareness about ODL programme in Nigeria and also work on the value of distance learning degrees among the employers of</p>	<p>As a follow up to the previous question, the participants were asked to suggest possible solutions to the highlighted challenges facing distance learning based teacher trainees.</p> <p>In South Africa, the participants suggest more Tele-centres to be introduced to take care of students in rural areas, recruitment of more supervisors for the practice teaching exercise, institutional support to be strengthened, as well as more funding opportunities and more</p>

<p>should have it in mind that teaching is such a crucial profession that requires both passion and adequate training to be able to deliver quality teaching.</p> <p>* NSFAS and other funding agencies need to give priorities to the funding of students in ODL institutions as much as they give to their counterparts in the conventional universities. Even as at now, we are no longer having a representative of NSFAS assessing student application in our institution. This is making it difficult for the interested students to access the funding through NSFAS as they need to get in touch with the headquarters for any enquiry on application.</p> <p>* More sensitization must be giving to the new students on the operation of ODL programmes so as to further prepare them ahead on what to expect.</p>	<p>labour so as to clear the air on the reservations that some of the students have on where to work.</p> <p>* I will suggest thorough screening of the applicants that want to enrol for teacher training programme here because many of them now take the programme for granted as if it is a left-over degree. I think more sanity needs to be brought into the system in terms of student recruitment and retention.</p> <p>* As a support staff member that is always in touch with the student, I have heard students complaining about not being able to access materials on the system, and sometimes they complain on the poor internet speed. I will also suggest that the university improve on the contents on the website.</p> <p>* Since we are having many young people showing</p>	<p>sensitization on the operation of ODL based teacher training programmes for the students.</p> <p>Similarly in Nigeria, the upgrading of standard of distance learning degrees was suggested by the interviewees. Proper screening of candidates applying to study teacher education by distance was also suggested.</p> <p>Other suggestions include adequate funding of ODL institutions and students by the government.</p> <p>Awareness creation for prospective candidates on what to expect while studying by distance, as well as improved website and internet accessibility</p>
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	interest in ODL programme, more funding opportunities should be granted for the indigent but academically-deserving young students as a way of encouraging them.	for the students and staff.
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Note: N=10 means 10 participants were interviewed for this question

7.0 Summary

This chapter has highlighted the findings obtained from interviews with academic and support staff members of the selected open and distance learning based universities on their pre-service teacher training by distance. This has produced a better understanding of the initial teacher education programme by distance in the two African countries of study (South Africa and Nigeria). Ten (10) academic and support staff members in the two ODL based universities participated in the interviews: three (3) academic and two (2) support staff in South Africa, and three (3) academic and two (2) support staff in Nigeria. The responses gathered from the interview as highlighted from the table 6.1 to 6.7, revealed significant similarities in the operations of pre-service teacher training in ODL based universities selected from the two countries of study.

Moreover, in South Africa, it was discovered that the partnership between the Telecentres located across the nation and the ODL based university enhanced the learning process of the distance learners as it creates enabling environment for the students to gain access to computers and internet facilities irrespective of their locations. In Nigeria, however, the responses from the interviews revealed that students can only access the internet at the main offices/campuses of the

university in their respective States only and no effort has been made to introduce something like Tele-centres where distance learners can have access to institutional computer and internet facilities without visiting their campuses just like the case of South Africa. Furthermore, results from the data obtained through questionnaire and interviews are discussed in the next chapter which highlights the major findings of the study.

CHAPTER SEVEN

DISCUSSION OF MAJOR FINDINGS

*The mediocre teacher tells. The good teacher explains.
The superior teacher demonstrates. The great teacher
inspires – William Arthur Ward*

7.1 Introduction

Qualitative education demands quality teachers. Governments all over the world have initiated a variety of approaches for increasing the supply of teachers into schools, boosting their capacities and improving their knowledge and skills. Prominent of these approaches involve using open and distance learning mode to train teachers at both pre-service and in-service levels. Open and distance education is different in approach to the traditional campus based learning system because of the fact that significant proportion of the teaching-learning engagement takes place at distance without the constraints or limitations of space and time (Perraton, 2000). Moreover, open and distance education has been used as a tool to solving the problem of scarcity of teaching personnel in most African countries including South Africa, Nigeria, Zambia, Kenya, Zimbabwe, and other nations where distance mode of education is deeply encouraged.

This chapter discussed major findings of this study on the pre-service teacher training in open and distance learning based universities in South Africa and Nigeria. The discussion of the findings began with the demographic information of the participants, the motivation of student teachers for enrolling in teacher training by distance, the methods used to practice the knowledge acquired at distance and the challenges encountered during the course of their learning and teaching practice. In discussing the major findings of this study, the researcher has attempted to

draw a parallel line between the findings and the objectives of the study. Draper (2004) noted that when writing the research report, it is important for the researcher to establish an appropriate fit between the research questions, objectives and the findings.

The interpretation of research results is important because it conveys meaning to information suggesting that the information collected might be difficult to understand unless the researcher assigns meanings to them (Miller & Brewer, 2003). Similarly, Daniel and Sam (2011) emphasized that in data interpretation, researchers relates the results of a given study with those of other studies in order to identify areas of conformity or gap. This is done with the aim of establishing some theories and also to expand the frontier of knowledge. The discussion and interpretation of findings in this chapter are designed in line with research questions as well as broader issues surrounding teacher training by distance in the two African countries.

7.2 Demographics characteristics of the respondents

This section describes the demographic characteristics of the study participants. Web Based Anonymous Survey was designed by the researcher and sent to the I.T. departments of the two ODL based universities which assisted in circulating the survey link to the participating student teachers. Five hundred and fifteen (515) pre-service teacher trainees responded to the survey from the ODL based university in South Africa, while seven hundred and one (701) pre-service teachers responded from Nigeria. Furthermore, ten (10) academic and support staff members from the two universities were also interviewed, and data obtained from their interviews were presented in the chapter six of this study.

7.2.1 Age and the choice of distance learning based pre-service teacher training

Data obtained from the questionnaire as highlighted in table 5.3 indicated that majority (54.0%) of the pre-service teacher trainees by distance are between the ages of 18 and 29 years. This observation is in contradiction with data obtained from the literature review which indicates that those who usually choose to study by distance are older individuals with huge demands from the family and other social responsibilities which may not give room for the kind of commitment/dedication required in traditional classroom based learning. This has been the trend in most of the countries in the Sub-Saharan countries where the demand for teacher education among youths is high and the conventional teacher training institutions have a specified quota system with a limited number of candidates they can admit per annum. Therefore, ODL based teacher training programme have become an escape route for young people who desires teaching qualifications with the aim of becoming professional teachers. Moreover, this finding corroborates the view of the Commonwealth of Learning (2015) which notes that:

As governments and policy-makers seek to expand the coverage of education, reduce costs and improve standards, it is clear that alternative approaches are needed. In the current economic climate, it is unlikely that traditional brick and mortar solutions will be the only viable option. As a response to the growing need for affordable quality education, there is an increasing demand for distance and online learning.

Similarly, Gurney-Read (2013), while describing the relationship that exists between age and choice of distance learning programme, noted that generally distance learners are mature students of over 21 years of age, but there has actually been a reduction in the age of those considering studying by distance. Younger learners, mainly those with the cost consciousness, are opting in for open and distance education as a viable option to acquire higher qualifications.

7.2.2 Employment Status and the choice of distance learning based pre-service teacher training

Survey results as presented on the table 5.5 revealed that a significant number of the distance learning based pre-service teacher trainees in the two countries were either unemployed (35.1%) or engaged in voluntary works (12%) which guarantees no stable income. Although, the data on the table also revealed 28.4 percent of the respondents to be civil servants, and 10.7 percent to be self employed, the result revealed a significant change in the general perception about ODL programmes that it usually attracts the attention of working class group and busy executives who, because of their busy work schedules, will not be able to cope with the rigours of campus based study programmes.

Moreover, it is very important to note that over seventy percent (70%) of the population in Sub-Saharan Africa are youths and below the age of 30 (UNESCO, 2015). Majority of these youths are unemployed and the huge unemployment rate among youths has resulted in a larger demand for education, knowledge and skills that can lead to livelihoods (Commonwealth of Learning, 2015). This could be seen as one of the major factors that attracting the interest of young people to open and distance learning programme, especially pre-service teacher training by distance.

7.3 What are the motivating factors for student-teachers to enrol for pre-service teacher training in ODL based universities in South Africa and Nigeria?

The study examined the pre-service teacher training in open and distance learning based universities in South Africa and Nigeria. The survey result presented on the table 5.18 revealed different factors that motivate the respondents to choose distance learning based pre-service teacher training. In South Africa, 39.8 percent of the respondents indicated the desire to engage in full time work while studying as the major factor that motivates them to enrol for pre-service teacher training by distance. Other respondents in South Africa indicated flexibility that comes with ODL programme to be able to have independence of learning, another full time learning engagement, and the ability to be able to do business as major motivating factors for choosing open and distance learning based pre-service teacher training programme.

Similarly, in Nigeria, 26.6 percent of the respondents indicated ability to work full time and study by distance, the desire to have independence of study (18.9%), to be able to do full time businesses (11.5%), because of another full time study programme elsewhere (6.9%), and the flexible nature of ODL programme as the major factors that influenced their decisions for enrolling for distance learning based pre-service teacher training programme. These findings are in conformity with one of the theoretical underpinning for this study, i.e. the Self Determination Theory of Vansteenkiste (2004) which emphasised the function of autonomous study as a major factor that motivate individual to choose ODL based learning programme over the campus-based learning.

Labuschagne (2003) provide an insightful knowledge about the relationship that exists between occupation and choice of distance learning

The distance education student is part of a non-homogeneous body of adult individuals that are more often than not representative of the economically active age group of the population and who is driven by motivation, autonomy and self-directedness in pursuit of acquiring knowledge to facilitate work promotion, job-related skill enhancement, or extension of current knowledge that is of interest to the learner. Such knowledge is acquired through a particular mode of study that is mediated by several tools in a structure not characterized by formal classroom attendance, but distance education.

Moreover, the survey results stands to confirm the findings of Zinyama and Ndudzo (2013) which state flexibility of the ODL programmes, opportunity to learn while at the same time earning, and learners' centeredness of the programme as the major factors motivating many adults to consider open and distance education delivery over the conventional school system. This also relates to the humanism and self concordance theories, as applied in this study, which highlighted learners' desire to have a substantial degree of freedom as a major motivating factor for choosing ODL based study programme.

Furthermore, the findings also corroborate the submission of Gurney-Read (2013) who states the ability to work part-time as one of the major factors that appeal to many adults who choose distance learning programmes over the conventional school settings. With employers of labour placing high importance on work experience, the ability to gain work experience while studying at the same time can have a significant positive effect on future career prospects.

7.4 What methods are employed by the selected ODL based universities to train pre-service teachers?

One major factor that distinguishes between the conventional mode of teacher education and distance mode of teacher education is the method. Conventional mode of teacher education involves the normal traditional delivering of teaching and learning, characterised by face-to-face conversation between the teachers/facilitators and the learners. In other words, conventional teacher training programme implies the planning of a lecture by a lecturer, delivered to learners who are located in the same room/venue at the same given time as the facilitator. The data collected from student teachers through questionnaire and the interview conducted for selected academic and support staff members from the two ODL based universities revealed some unique techniques used in training pre-service teachers by distance. These methods are discussed below.

7.4.1 Teaching and learning delivery method and most preferred format of learning materials

Since there is absence of constant physical interactions or face-to-face verbal lectures in open and distance learning programme, it would be interesting to investigate how the ODL institutions that are involved in pre-service teacher training deliver lectures and learning materials to their learners. In table 5.13, the participating pre-service teacher trainees by distance sampled from the two countries of study were asked to indicate different formats of learning materials that are available to them through their institutions and the most easily accessed format. The respondents identified text materials, audio and audio-visual, materials transmitted through Black boards and Moodle as well as others which were not specifically mentioned on the instrument. Interestingly, majority of the respondents (58.2% in South Africa, and 43.0% in Nigeria) indicated text-based

learning materials as the one they enjoy most. Freeman (2005) is a good pointer to corroborate this finding. He highlighted electronic journals and textbook as the most preferred learning materials by the distance learners because of its perceived ease of access, use and transfer both from one device to another and also from one student to the other. Similarly, Liu and Yang (2004) in a study conducted to examine the graduate students' use of information sources at the Texas A. & M. University reported that students in open and distance learning programmes showed preference for fast and easily accessible learning materials like textbooks and other text-based learning management systems in their field of study, and this also affected their utilization of institution libraries. However, while talking about the materials that are more accessible to the larger percentage of distance learners, Burgstahler (2015) cautioned ODL based institutions against generalizing that once a learning material is accessible and easy to use by majority of learners, then it is accessible by all.

There is no doubt about the importance of providing learning materials in portable electronic formats. However, these provisions often do not take into consideration the needs of people with disabilities. Little wonder that Burgstahler (2015) suggested for ODL institutions to take note of the psycho-social differences in learners while designing courses and learning materials for their students so as not to erect obstacles to the full involvement of learners with some types of learning challenges. This is further confirmed by the results of this study that identified audio-visual materials as the most preferred format of learning materials by the sampled pre-service teacher trainees.

7.4.2 Modes/channels of receiving learning materials

The results on the Table 5.15 revealed Blackboard, pre-loaded CD Rom, e-mail, post, and school website as different channels through which pre-service teacher trainees receives teaching-learning materials from their institutions. Majority of the pre-service teachers from South Africa indicated post (46.3%) and school website ((42.1%) as the major channels through which they receive learning materials from their university. This finding correlates with the result of the interview conducted for the academic and support staff from the selected ODL based university in South Africa. One of the academic staff, during the interview, said:

The institution is aware that some of the student teachers come from the rural communities where there is no constant access to the internet facility. Because of this, the university ensures that learning materials are packaged and sent to the concerned student teachers through using postal service.

Moreover, this confirms the relevance of the theory of distributed learning to this study as put forward by Lave and Wenger (1991) which emphasized that the environment of a learner has a significant influence on cognitive behaviour of learners. Therefore, stakeholders in open and distance education must put into consideration the diversity of learners in whatever material or platform of learning to make available.

In Nigeria, however, majority of the respondents identified electronic mail (47.2%) and CD Rom (20.2%) as the major channels through which they received learning materials from their institution. Other respondents indicated post (6.5%), blackboard (6.1%), and university website (11.2%) as channels of receiving learning materials. On the suitability of the learning materials, results on the table 5.20 reveals that majority of the participants responded affirmatively to the suitability of the learning materials they received from their institutions.

7.4.3 Level of internet accessibility

Results of the data collection presented on the table 5.16 revealed the level of accessibility to the internet by the respondents. In South Africa, only 38.0 percent of pre-service teacher trainees that participated in the study have constant access to the internet. The case is not different in Nigeria as only 34.3 percent responded affirmatively for having constant access to the internet. This shows that many of the distance learning based teacher trainees in the two countries lacks adequate access to one of the most important resources to their studies – internet. Earlier studies have also revealed low rate of internet penetration and access as one of the big challenges facing open and distance learners in developing countries (Valentine, 2002; Sife et al, 2007; Motlik, 2008; Gulati, 2008; Andersson & Gronlund, 2009; Frehywot et al, 2013; Mtebe & Raisamo, 2014; Forsyth, 2014; Saheb, 2014; Farid et al, 2015). Moreover, inadequate access to the internet is seen as a major factor depriving many classroom teachers in developing countries of the opportunity to take full advantage of Information and Communication Technology (ICT) in improving their teaching-learning activities (Ruthven et al, 2005; Ololube, 2006; Bingimlas, 2009). For this to change, Olaniran, Duma and Nzima (2016) suggested that for the institutions providing teacher training programme, especially the ODL based ones, to work out modalities in ensuring that their teacher trainees have adequate access to both the internet and other ICT tools required to deliver the goal of the 21st century teaching learning activities.

7.4.4 Devices for accessing internet connectivity

Data presentation on the table 5.17 revealed the respondents' devices of accessing internet connectivity. The results on the table revealed that majority of the pre-service teachers from the two countries (68.1% in South Africa, 59.3% in Nigeria) indicated mobile phone and tablet as

the major devices they use in gaining access to the internet. The implication of this is that institutions providing open and distance education in Africa must work on their digital presence on mobile devices. When the issue of making information available to distance learners on the university website is solved, another issue that must be considered is whether the website is accessible on mobile platforms such that it can serve the needs of the teeming population of learners who relies majorly on their mobile devices. Several studies have been conducted recently that looked into the emerging field of mobile learning and its integration into open and distance education (Traxler & Kukulska-Julme, 2005; Gaskell, 2007; Fozdar & Kumar, 2007; Lim, et al, 2011; Osang et al, 2013; Ally, M., & Tsinakos, 2014; Brown & Mbatia, 2015). All of these studies agreed to the fact that mobile phone is one learning technology that must not be ignored by the institutions focusing on teaching and learning delivery today.

7.4.5 Communication and feedback system

Recent studies on managing and sustaining distance education (Tait, 2000; Muilenburg & Berge, 2001; Gulati, 2008; Subotzky & Prinsloo, 2011; Lockwood, 2013) have identified effective communication and feedback system as one of the features of a good open and distance learning based institution. Table 5.21 shows the result of the survey conducted among the participating pre-service teacher trainees by distance in the two ODL based universities of study on the adequacy of the communication and feedback system of their institutions. It is clear from the table that majority of the respondents from the two countries disagreed (45.7% in South Africa, 61.1% in Nigeria) to the adequacy and effectiveness of the communication and feedback system of their institution. While responding to one of the open-ended questions on the instrument, one of the pre-service teacher trainees from South Africa has this to say:

I do not know why lecturers don't communicate directly with us. Sometimes the website of the institution is down and you need something urgently. One will think sending email to the lecturer concerned is the best option but most of our lecturers do not respond to mails.

In a similar vein, a respondent from Nigeria said:

You can be calling helpline for hours without anyone picking your call. It is frustrating when you are studying at distance and nobody seems to understand how you feel when no one is ready to attend to your query.

While responding to the interview questions, the academic and support staff members of the two universities gave affirmative responses on the effectiveness of their communication and support systems. One of the support staff members in South Africa made mention of the institution's strong use of social media platforms like Facebook to communicate and receive feedback from the student teachers, as well as give instant replies to any of the questions or queries raised. Similarly, an academic staff from the Nigerian based ODL institution interviewed also reiterated the effort of the institution in reaching out to the students and getting feedback from them using different means like telephone calls and emails. Marrying the findings from both the questionnaire and interviews together, it raises a question on whether the ODL institutions made efforts in involving the students or considering their characteristics while planning the communication and support systems for the institutions or not.

Tait (2010) emphasised the importance of considering students characteristics in designing communication and support system in open and distance learning setting. Similarly, the theory of social interaction used in this study also established the importance of communication and availability of interactive platforms in self-distributed learning as learners engages them not only to communicate to their facilitators or institutions alone but also rely on these platforms to interact and share experience among each other. It is, therefore, necessary for the institutions

providing teacher training by distance to look keenly into strengthening this area with a view to establishing more efficient communication and feedback system for their learners.

7.5 How the student teachers put into practice what they learnt through distance delivery mode?

The purpose of teacher training is defeated if the trainee is unable to apply the knowledge acquired to better his or her classroom teaching and learning engagements. An untrained or undertrained teacher is not likely to deliver the goal of classroom teaching, irrespective of the amount of the teaching resources at his or her disposal. In other words, being productive as a teacher is not measured by the amount of degrees at hand but the impact of the classroom teaching on the students. While corroborating this view, Hariss and Sass (2010) viewed teacher's productivity as teacher's contribution to learner's achievement both in and out of school. A range of studies that explore what determines the effectiveness or productivity of a teacher in the classroom (Darling-Hammond & Youngs, 2002; Goldhaber, 2002; Rivkin, 2005; Chen, 2010; Hariss & Sass, 2011; Lavy, 2011; Buabeng-Andoh, 2012;) have identified common features which includes:

- Personal characteristics of individual teachers;
- Passion;
- Academic/training background;
- Communication/verbal ability; and
- Subject matter knowledge

This section of the study was specifically aimed at finding out how pre-service teacher trainees in distance learning programmes apply the knowledge and skills they have gained by distance.

7.5.1 Use of Technology in the classroom

Information and Communication Technology tools are changing teaching and learning activities dramatically. Therefore, teachers must find possible ways and effective techniques that will enable them to teach with technology. Thomas and Knezek (2002) highlighted some key areas where technology plays important roles in today's teaching and learning engagements. Table 5.22 presented data based on the responses of pre-service teachers on the use of technology to teach during teaching practice exercise. Since most of the ODL students' learning and engagements are aided by technology, the question of whether they are able to use the same technology to support their classroom teaching is relevant. From the results on the table, majority of the pre-service teachers sampled (68.2% from South Africa, 65.2% from Nigeria) agreed that they are able to use technology to enhance their classroom teaching. However, a significant number of respondents (22.2% from South Africa, 22.9% from Nigeria) disagreed. This calls for an intensified efforts on the part of the ODL based institutions to ensure that those being trained to teach in the 21st century classrooms are equipped with necessary ICT skills required for today's teaching and learning activities.

7.5.2 Use of Laboratory for Practical

Practical activity is at the centre of science based subjects. It therefore implies that teachers that will teach these subjects are expected to be equipped with knowledge, skills and techniques

involved in performing laboratory based experimentations. Table 5.23 presented the responses of participants on the use of laboratory for practical activities. The little percentage of the pre-service teachers that are studying science education courses (39.2% in South Africa, and 37.3% in Nigeria) agreed that they can use laboratory for practical experimentations. Similarly, the results from the interview conducted for the academic and support staff members of the two ODL based universities revealed that these institutions usually make arrangement for students to visit the institution based laboratory to conduct practical, in addition to the virtual/audio-visual laboratory materials they have access to via the internet and CD Rom. In other words, pre-service teacher trainees in the selected ODL based universities have access to physical/school based laboratories to do their experimentations just like their counterparts in the conventional teacher training programmes. This finding, therefore, provides pathway to the issue of practical in ODL based teacher training programme raised by St. Pierre (2012) on the appropriateness of ODL in training pre-service science teachers because of the practical activities involved in teaching science subjects in schools.

7.5.3 Perception of pre-service teacher trainees by distance on the face-to-face lectures

One of the dominant features of open and distance education is the separation of teacher and learner both in place and time with the aid of technology which ensures that teaching and learning activities takes place smoothly between the two parties. Though, ODL based institutions operates majorly online, some of them gives room for occasional classroom interactions which comes in form of block contact sessions and tutorials, just like the conventional institutions. For instance, one of the academic staff members interviewed in the ODL based university selected in South Africa made it known to the researcher about the efforts of the university in recruiting both

face-to-face tutors and e-tutors to conduct real-life tutorials for their students in selected locations across the country. The idea behind this is to ensure that their students have experience of some class-room based lecture activities, which also give them the opportunity to ask their facilitators questions and receive instant answers. Similarly, in Nigeria, one of the academic staff members interviewed said

The university is aware that we now have more young people studying by distance today than before, and this make the request for physical face-to-face lectures to be intense. To take care of this demand, the university has established study centres in almost every State of the federation and through these study centres, our distance learners now have access to weekly classroom-based tutorials where they have physical access to their lecturers and get on-the-spot responses to their questions

Moreover, Table 5.25 presented the responses of the pre-service teacher trainees by distance on their perceptions of whether not having constant face-to-face lectures affects their academic performance negatively. Majority of the respondents (53.6% in South Africa, and 66.6% in Nigeria) disagreed to his notion, and this established that majority of them have adequate awareness on the operations of ODL based institution and have prepared ahead for it. However, a significant number of respondents (24.6% in South Africa, and 25% in Nigeria) agreed that not having constant face-to-face lecture is affecting their academic performance in one way or the other. In addition to this findings, one of the participants responded to the open-ended question on the questionnaire this way

We need more classroom lectures as the lecture notes and online video alone are not enough. The university can help us further by giving regular classroom based lectures so that people like us who are not working can participate and learn more about our course of study

It is clear from the response of this participant that the awareness about the operation of ODL based universities is still very low, even among those who are already in the programme, as some of them expects distance learning to operate like conventional programme characterized by the daily classroom lectures between lecturers and students.

7.6 What are the challenges facing ODL based pre-service teacher trainees

Various studies conducted recently have identified challenges associated with the training of teacher using open and distance learning mode (Jung, 2001; Aguti, 2002; Stella & Gnanam, 2004; Mupinga, 2005; Mukamusoni, 2006; Maritim, 2009; Duncan & Barnett, 2009; Compton et al, 2010; Stobaugh & Tassell, 2011; Mubika & Bukaliya, 2013). Prominent among the challenges identified includes the issue of quality assurance, accreditation and recognition of distance learning degree, finance, and inadequate supervision of teaching practice. However, this study highlighted some of the key challenges facing pre-service teacher trainees in selected ODL based universities. Table 5.29 presented the results of the responses of the interview conducted for the participating pre-service teachers. The challenges highlighted on the table includes teaching-learning related challenges, technology related challenges, issues related to the teaching practice of student teachers, challenges related to support system, and issues related with disabilities. Furthermore, some of the respondents also expressed their minds on the challenges facing them while attending to the open-ended questions on the questionnaire. For clarity sake, these challenges were presented in tabular form below, with reference to the ODL based university selected in each of the individual country of study.

7.6.1 Challenges facing ODL based pre-service teacher trainees in South Africa and Nigeria (Results from the participant's responses to the open-ended questions)

The total number of one thousand, two hundred and sixteen (1216) pre-service teacher trainees (515 in South Africa, 701 in Nigeria) responded to the questionnaire designed for this study which is examining pre-service teacher training in selected ODL based Universities in Africa. Having presented the quantitative results from the questionnaire and findings derived from the interviews earlier, it is also important to present the qualitative results which were derived from their responses of the pre-service teacher trainees to the open-ended questions on the questionnaire.

Table 7.1: Teaching-learning related challenges facing ODL based pre-service teacher trainees

S/No.	South Africa	Nigeria
1.	Many times, the incorrect tutorial is listed under the module code. And there are no previous exam papers to check as guide.	Standing in front of pupils during teaching practice is a challenge for me. It's as if I should quit.
2.	Sometimes the materials posted by my university arrive very late which affects my study and preparation for examinations	Some of the materials are not legible enough. The university must improve on them so as to serve the purpose.
3.	I am currently in my fourth year and I was no longer given any materials. I have to download study materials online. This is a big challenge to me because I work in a rural school where there is no electricity	Majority of us prefer audio-visual learning materials but sadly our university does not always make audio-visual materials available.

4.	To Think for myself and learn by myself to understand the material and teach myself is sometimes difficult	I find it difficult to cope during teaching practice. It has always been like that.
5.	Content not being available upon registration or content being placed in wrong locations i.e. placing “tutorial letters” under "additional resources" whereas there is a place for tutorial letters under "official study material"	Some of us doing calculating courses are facing tough challenges as no one to guide us on those subjects. We rely majorly on textbooks without seeing anyone to explain things to us
6.	Textbooks unavailable for the beginning of the semester. Sometimes I consult old textbooks. For example, the study guide may indicate look at point 2.3 which may not be the same in the text. I suggest they should use the heading of the point e.g.(2.3) - the effects of movement.	The university fails sometimes to give us the materials on time, even after we have paid for it. Some of the materials get to us when we are one or two weeks close to the examinations. This is not good enough
7.	I pay on time but receive study materials very late when assignments are only days away from the due date. At times you are forced to download and print the materials you have already paid for which is costly.	I am nervous when it comes to standing in front of the class to teach.
8.	As a full time career woman, and housewife, you just don't have enough time, and at times can't stay focused.	Not having face-to-face lecture is a challenge to me.
9.	YouTube is a fantastic channel for learning. I have watched lectures there and it is amazing. But my university	Lecture delivery on radio is a good idea but we do not have the chance to phone in and ask questions directly from the lecturer after the

	<p>does not use this medium very much. They only schedule video conferences and expect working students to take leave to watch at their venues instead of just publishing online, or through a feed like YouTube.</p>	lecture
10.	I live in rural area I don't have Smartphone or laptop so I don't easily access the internet	Internet connectivity is always my problem as I do not have a Smartphone.
11.	I do not have a good grasp of English language, and as a result I speak and write baby English. There are documents that I read with the dictionary on my other hand.	Some topics requires experts demonstration so the students can understand
12.	The challenge I have is my work as I do shifts and depend on people to swap shifts. Sometimes I cannot go for practical because I must be at work, and they cannot offer me leave at work	We are not being prepared enough to prepare lesson note.
13.	Lack of tutorial classes for some modules is a big challenge for me	Not having enough access to laboratory for practical is a challenge
14.	My challenge has been juggling open distance learning with work (as I am the breadwinner of a family of more than seven people) and having to deal with the stress of life in general or rather the frustrations I encountered along the journey.	There is no consideration for people that are working. They want all of us to visit the university office all the time.

15.	The website is not always mobile friendly. It often brings an offline message, especially if you need to submit an assignment	The university must improve on the website. Sometimes it takes forever to open.
16.	Sometimes the website is not available. Website is always down or offline with ADSL problem	We need more of audio-visual teaching materials.
17.	Timely delivery of tutorial letters but late delivery of study materials	Sometimes, information gets to me very late, and when it is no longer relevant
18.	Answers to past examination papers should also be made available so when one studies one does not have to guess the answers.	The time schedule for tutorials is not convenient for me. The university should look into fixing Sunday's classes
19.	Teaching practice is too difficult to pass because of too much work in the short time, they give us only two weeks to finish that course. We end up getting stressed of too much work every day.	Some schools do not want to take us for teaching practice because we study by distance learning
20.	The internet can sometimes be slow and internet bundles are expensive for some of us who live far from the university branch	My phone cannot browse, and I need to be online daily to communicate with my colleagues.
21.	Modules are not deleted for the following semester and thus one cannot re-register. Deferring of credits is only for the calendar year. The portal is not user friendly.	My challenge is that I am not sure if I will get a job in a government school with my distance learning degree
22.	The student teachers are not adequately sensitized on how to take all learners in a classroom equally.	The university fails to deliver lecture materials to me after paying for them. I end up downloading them online without them refunding me.

23.	A lot of schools have issues with ODL universities and so it's difficult for us to find a spot for teaching practice.	
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Table 7.2: Communication/feedback related challenges

S/No.	South Africa	Nigeria
1.	My challenge is I struggle to get hold of the University staff when I need help over the telephone. And the email takes too long to be responded to as I need immediate answers	The university doesn't care about us as such. You can be on phone from morning till night trying to make enquiries but nobody will pick your call.
2.	Correspondence with some lecturers becomes a challenge when the lecturer fails to respond to emails and phone calls	The support service unit can make use of social medial forum to communicate with students
3.	Lecturers replying late to emails. Sometimes, it takes 2-3 weeks for a reply to come. This is also common among the admin staff.	The inability to ask question and receive instant response is a challenge
4.	Expensive data cost is killing	Communicating via the internet is expensive. Some of us cannot afford to buy data on our phone
5.	I have a challenge whereby my study guides doesn't get to me on time via post, therefore, I am unable to do my assignments on time. I don't always have access to internet. This also affects how I do my assignments because using just the tutorial letters isn't enough. I am also faced with challenges whereby the lecturer doesn't respond to my emails on time or at all.	It is not always easy getting replies to queries made online from the institution Many times I have to visit the branch office if I have something urgent to confirm
6.	Not having adequate orientation on the online modules. Some modules are very confusing	Human relation is one of the things the admin staff of this university needs to

	and they don't communicate	learn.
7.	Not having lecturer to supervise you during Teaching Practice can be frustrating. The supervisors need to work within the Teaching Practice time frame and not after.	I experienced a great challenge during the last teaching practice and I ended up not supervised. I called the university on the helpline to lodge the complaint but no one was there to pick my call

Table 7.3: Challenges related to finance

S/No.	South Africa	Nigeria
1.	I'm using my child's grant to pay for my studies which is not enough. I'm staying in informal settlement because I have no one to pay rent. Sometimes I fail to pay the minimum fees and end up not getting my results.	State Government Bursary Schemes are not open to distance learning students. Our institution must do something about this
2.	Getting study fees is often a great challenge for me. I need financial aid to be able to complete my teacher training programme.	Studying in this university is very expensive. I thought it would be cheaper studying by distance but I am wrong.
3.	My challenge here is that I am working as domestic worker, and sometimes I don't have enough time to study, and I started my studies in 2011. I don't want to quit because I see myself as an Educator in three years to come. I work Monday to Sunday and I earn R2000 a Month with three children.	My work takes more time from me and money is not always available to settle the school bills. There should be a way where university can assist.
4.	Getting fees to pay my tuition and buying materials is often a great challenge to me	
5.	Not being able to secure NSFAS is a great challenge to me. I think this university must do something about it.	

Table 7.4: Disability related challenges

S/No.	South Africa	Nigeria
1.	I am a person with hearing impairment. So text materials are more enabling to me than any other formats.	I have hearing impairment. This is why I prefer text materials.
2.	Spinal operation. Can't sit for long periods of time to study or prepare for exams.	I am on a wheelchair, and I find it difficult coping with practical
3.	Sometimes I do not receive study material in my chosen format, i.e. Braille; therefore, I need to study with the electronic material obtained from the university website which is not really convenient for me.	I have short sightedness and I cannot read at night.
4.	I have scoliosis (an unnatural progressive curving of the spine).	I frequently forget what I read, especially during exams. I do not know what is called but I know something is wrong somewhere. This really affected me during the last exams and I hope the university will be able to make special consideration for me this time.
5.	I am not able to read clearly at night. This is why I prefer audiovisual learning materials over other formats of lectures because I will be able to put my earphone on my computer or phone and watch the lecture anytime of the day.	I have this disease that prevents me from sitting down for a long time.
6.	I have Post traumatic stress disorder	I easily loose memory of what I have read
7.	I have recently developed a serious hypertension problem. The doctor was afraid if I don't get it under control; I	I cannot cope with reading for a long period of time. I usually lose concentration when I sit down for more than one hour to read, write

	am at risk of even having a stroke. Unfortunately, I have had severe side effects from the blood pressure medicines, and I have not been able to adjust. I also have had anxiety attacks since I lost my Mum almost 3 Months ago. I study under these tragic circumstances.	notes or write examinations.
8.	I suffer from a mental disorder	I cannot comprehend while reading
9.	I suffer from Spina Bifida which keeps me on a wheelchair always	I suffered a disease which made my right hand to be amputated. I write notes and examinations with my left hand and this made my writing to be slow.
10.	I suffer from epilepsy; my seizures are common when exam time comes.	
11.	I have what is called Bipolar disorder and severe clinical depression	
12.	I have Attention Deficit Disorder	
13.	I can't study at night and use computer for long time because I am allergic to electric light.	
14.	I have short-sightedness. I cannot see things from afar	
15.	My eyesight is getting weaker and weaker by the day	
16.	I struggle a lot with concentration while studying.	
17.	I suffer from hearing impairment	
18.	I have sight problems. My arms got fractured too.	
19.	I am a lupus patient	

Table 7.5: Suggestions to the ODL based universities towards addressing the challenges

S/No.	South Africa	Nigeria
1.	They should intensify their efforts in providing better support services to the distance learners	I think some of us that have teaching experience should be exempted from teaching practice.
2.	Lecturers/supervisors must come and observe student teachers more often	There should be proper orientation about what is expected of the student teachers, during and after teaching practice. Many of us get to the schools where we are posted to just to discover that there are lots we didn't know about classroom teaching.
3.	University should have facilities where student teachers can practice on the white board, setting up of projectors, and observe demonstration on how to draw up lesson plans step by step and how to apply them.	The university should establish I.T lab across the study centres where students can have free access to the internet
4.	The University must just improve in communication with regard to materials, assignments, feedback and answering their emails and phones	The university should be awarding credits for prior knowledge or experience, especially for those who have teaching experience
5.	Practical in pre-service teacher training should be offered as an enrichment program not as a programme of assessment	The university should improve on their examination schedules and stop postponing exams. It is the student that losses whenever examinations are postponed because the employer will not give you additional leave days to attend to the exams later.
6.	Lecturers need to be of more assistance and we need to get module answers and marked assignments, at least a couple of weeks before the exams.	The university needs to employ more lecturers to handle some of the key courses in Education. We need more expert lecturers to shed more light on different modules that we

	Some of the papers we wrote we did not even have the correct answers, and we did not know if we were on the right track or not.	take. Some of the tutors that we have are not well grounded in the modules assigned to them
7.	I hope the university will use technology more appropriately and send video lectures or something more interactive once in a while and not just texts via post or pdf.	They need to provide a lecturer to be teaching us even if it is Saturday alone
8.	There are some modules that require compulsory practical (e.g. Practical Biology) which a student must make arrangements to travel long distance to another Province to hold such practical. I wish the university can arrange with a close-by university within the province so the student will not need to travel far.	The institution should make lectures available in portable audio formats like podcasts.
9.	The service provided by the institution is adequate and improving over the years. However, the major problem I have experienced so far is poor communication, especially from the administrative staff. Also many of them do not know what is going on, and you are directed from one person to another, until you reach a dead end, with no suitable answer to your query. I hope they will improve on this.	Many of us are just taking this programme and we do not know what is going to be the outcome in terms of job opportunities out there. There are many employers that do not want to take distance learning graduates. The university needs to do a lot in terms of sensitizing the society on the value of distance learning degrees.
10.	I was initially a teacher intern at the school where I currently work. I have	We need more of audio-visual materials. It would be good if some lectures can be

	gained valuable experienceS in the classroom during my four year internship and I do believe that an internship experience together with ODL is a good combination to perform well in the classroom. I want to suggest that the institution introduce a compulsory teaching internship in nearby schools where pre-service teacher trainees are located because I do not believe that students get enough teaching experience by just observing a yearly 5 week teaching practice period.	delivered via videos.
11.	Introduction of special bursary or scholarship award for young people that are studying through distance learning so they would not need to compete with counterparts in conventional universities. This will serve as a morale booster for us.	University can help us to talk to the government on the reason why they must extend bursary and scholarship opportunities to distance learning teachers
12.		The university must increase their bandwidth as the website is always slow.
13.		There should be regular counselling services where students can have time to discuss the issues affecting them with the counsellors and get instant feedback
14.		It is suggested for the university to introduce Monthly town hall meetings involving students and their lecturers.

7.7Summary

This chapter discussed major research findings from the quantitative and qualitative data collected for the study through questionnaire and interviews. In discussing the findings, comparisons between the two countries were made. This helped to establish the similarities and differences between the two countries (South Africa and Nigeria) in terms of the operations of open and distance learning based universities, factors motivating learners to select distance learning based teacher training programme over the conventional training, as well as the challenges confronting pre-service teacher trainees by distance in the two countries.

The results from the demographic data of the pre-service teacher trainees revealed that ODL programmes today now attracts more young people than the older adults. This suggest to the government and other stakeholders in ODL to rethink distance education beyond older adults and working group in the society. Moreover, there should be more elements of inclusiveness and youth-friendly services (Olaniran, 2018) that are similar to the ones available in conventional universities so as to serve the needs for today's young people that are showing interest in open and distance learning programmes.

The next chapter highlights the summary of the findings, the conclusions and recommendations.

CHAPTER EIGHT

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1 Introduction

The chapter summarizes the study, highlights its findings and contributions, points out its recommendations based on the interpretation of findings, and also suggests directions for future studies on teacher training by distance learning in Africa.

The thrust of this study was to investigate pre-service teacher training in open and distance learning based universities in South Africa and Nigeria. The specific objectives of the study include:

1. To explore the reasons which motivate student-teachers to enrol in the ODL-based institutions in South Africa and Nigeria;
2. To examine the methods and channels being employed by the ODL based universities to train pre-service teachers;
3. To explore how the student-teachers put into practice the knowledge they acquired by distance learning;
4. To investigate the challenges facing pre-service teacher education in ODL based universities and suggests ways of improvement such that their programmes meet the 21st century demand for better quality teachers.

A total of 1216 pre-service teacher trainees, and 10 academic and support staff members were sampled from the selected ODL based universities. A Web Based Questionnaire containing both closed and open-ended questions was used to collect data from the pre-

service teacher trainees, while one-on-one interview was conducted among the academic and support staff members of the two universities.

Specifically, Web Based Questionnaire was designed to find out the demographic characteristics of the participants in relation to their choice of distance learning based teacher training, motivation for choosing to study by distance, their common study and assessment methods while studying to become teachers, the type of support system available in their universities, and the challenges they faced during teacher training programme. The questionnaire also attempted to seek the opinions of the participants on what can be done to further strengthen ODL based teacher training programme such that it meet the 21st century demand for better quality teachers.

Data collected from the teacher trainees was analyzed using descriptive statistics of frequencies and percentages and was presented in tables and graphs. The findings from the interviews conducted for the academic and support staff members were also discussed and presented in tabular forms.

8.2 Demographic characteristics of the participants

The pre-service teacher trainees by distance that participated in this study were mainly individuals with boundless enthusiasm for the teaching profession. This is evident in their responses to the questions in the instrument, especially the open-ended ones where they were given the opportunity to express their opinions in essay formats.

Majority of the respondents (49.8% in South Africa, and 57.3% in Nigeria) were between the ages of 18 and 29, which means that most of the participants were young and active citizens

of both countries. Similarly, majority (53.8% in South Africa, and 59.2% in Nigeria) were unmarried people at the early stage of life and also at the beginning of building career paths for themselves.

Moreover, contrary to other studies that showed employed and busy professionals to be the active majority found in open and distance learning programmes, this study revealed unemployed youths and those in the voluntary occupations (35.9% in South Africa, 55.3% in Nigeria) as the major group in distance learning pre-service teacher training in the two countries. This might be explained by the growing youth unemployment rate in South Africa and Nigeria which informed the decisions of young people to keep themselves in schools pending the time they would secure a job. Another reason might be the perception that teaching jobs are easily found in the two countries compared to other types of jobs. On the same note of increasing unemployment rate, a significant number of the respondents were found to be sponsored by parents and grants from the government.

8.3 Summary of findings based on the research objectives

This section summarizes major findings of the research according to the four objectives set for the study and the corresponding research questions.

8.3.1. Objective One: To explore the reasons which motivate student teachers to enrol in the ODL based pre-service teacher training in SA and Nigeria

The corresponding research question that guided this objective was:

What are the factors that motivate student teachers to enrol for ODL based pre-service teacher training in South Africa and Nigeria?

There has been a noticeable growth and interest in distance learning based teacher training programmes worldwide and there are factors responsible for this. Without doubt, open and distance education has made significant contributions to the field of teacher education and training worldwide. Open and distance learning mode has been used broadly to train new teachers, and upgrade the knowledge and skills of those already in the teaching service (UNESCO, 2001; UNESCO, 2002; Perraton, 2003).

The current study found out that majority of the student teachers sampled were motivated to enrol for ODL based pre-service teacher training because they wanted to have independence of study in terms of being able to determine the time, space and pace that their studies will take. Other significant motivating factor found out by this study includes the flexibility of open and distance education compared to the traditional campus-based programmes, ability to work full time work, and the desire to do businesses without being hindered by the studies. Although, majority of the pre-service teacher trainees sampled in the study were unemployed, and between age bracket of 18 and 29 years, many of them still held on to the hope of securing employment soon and did not want to be disadvantaged by the nature and rigours of conventional full time studies when the opportunity finally arrives.

8.3.2 Objective Two: To explore the methods used by ODL based Universities to train pre-service teachers.

The corresponding research question that guided this objective was:

What are the methods and channels used by ODL based Universities to train pre-service teachers?

Universities offering ODL based teacher training programmes at both initial and professional development levels have unique methods and channels being used to reach out to their teacher trainees. Although these methods and channels are gradually being adopted by conventional universities today because of the need to take teaching and learning activities beyond the classroom settings in line with the globally accepted lifelong learning policies and practices. The study discovered that various multimedia channels and strategies, which are aided by the advancement in Information and Communication Technology (ICT), are being used by the participating ODL based universities to train not only pre-service teacher trainees but also other categories of students in different fields and disciplines offered by the institutions. These include radio, TV, mobile technologies, electronic mails and websites, social media platforms like Facebook and Twitter, Learning Management Systems (LMS) such as Moodle and Black-board, among others. In addition to these, postal services is still being used widely by the ODL based universities, especially those operating in South Africa, to transport text books and other teaching and learning materials to distance learners located in rural communities where access to internet facilities is limited.

Moreover, the study also found out that block contact session is being organized for pre-service teacher trainees in the selected ODL based universities for them to visit the university headquarters or satellite study centres for face-to-face practical and tutorial exercises.

Talking about the assessment method during teaching practice, the study discovered that pre-service teacher trainees by distance sampled from the two universities are usually visited in

their respective schools by the university lecturers and external supervisors engaged by the universities. During this visitation, the lecturers and supervisors observe and grade the individual teacher trainee while teaching in the classroom, just the same way it is done in the traditional campus based teacher training programmes.

8.3.3 Objective Three: To explore how the student-teachers put into practice the knowledge they acquired by distance learning

The corresponding research question that guided this objective was

How do the student teachers put into practice the knowledge they acquired by distance learning?

Good teachers are not only recognized by the quality of content knowledge they possess but also by their ability to deliver in the classroom. Hashwey (2006) identified six different but interrelated knowledge that a good classroom teacher must possess and these includes content knowledge, general pedagogical knowledge, curriculum knowledge, knowledge of learners and their characteristics, knowledge of educational contexts, and knowledge of educational ends, purposes and values.

The findings of the study revealed various forms and techniques used by the selected ODL based universities to help their teacher trainees acquire these knowledge identified by Hashwey. The results of the data from the field work revealed that distance learning based pre-service teacher trainees sampled also had access to teaching practice, just like their counterparts in the conventional universities, to put into practice the knowledge acquired by

distance learning. Furthermore, the science subject based among them also had access to laboratories in their respective schools of practice for experimentations with their students. However, the data from the study, especially from the responses of participants to the open-ended questions on the questionnaire, revealed inadequate supervision from their universities during teaching practice and the respondents opined that this may jeopardize the quality of the teaching practice programme.

8.3.4 Objective Four: To investigate the challenges facing pre-service teacher education in ODL based universities and suggests ways of improvement.

The corresponding research question that guided this objective was:

What are the challenges facing pre-service teacher education in ODL based universities and what can be done to overcome them?

The results of the data collected through questionnaire and interviews revealed several challenges facing pre-service teacher training programmes in selected ODL based universities. These challenges were summarized into four sub-categories, namely; teaching and learning based challenges, challenges related to communication and support system, financial related challenges, and disability related challenges.

For teaching-learning related challenges, most of the pre-service teacher trainees that participated in the study from South Africa identified late delivery of materials sent by post, confusion between the module code and content of the materials, difficulties in getting schools to observe teaching practice, inadequate supervision during teaching practice, and

frequent breakdown of the university website when it is time to access vital information/materials for their studies. For their Nigeria counterparts, the challenges identified include not having access to enough audio-visual materials for learning, difficulties in standing in front of the classroom during teaching practice, teaching materials not legible enough, and frequent breakdown of the university portal where learning materials are uploaded.

For communication/support system challenges, the respondents from the two universities identified wide communication and feedback gap between the student teachers, lecturers and support staff members. In addition to this, inability to get instant answers to the questions asked via email or telephone, poor internet access, and not having adequate orientation on how to access online contents and communication channels are great barriers facing their studies.

Moreover, the main problem that the participants identified, in relation to the finance-related challenges, was their inability to access study sponsorship, bursary or scholarships due to the fact that most of the study grants available are usually targeted at students studying at the traditional campus-based higher institutions. The study found out that this situation is similar in the two countries where the selected two ODL based universities were located and many of the pre-service teacher trainees sampled wanted a shift in the policy and procedure that guides the operation of their States and National bursary and scholarship schemes so that it can accommodate students in the open and distance learning based institutions.

8.4 Conclusions

Results from the study revealed that open and distance learning (ODL) play a big role in the training of teaching manpower in Africa, especially for South Africa and Nigeria. However, there are pockets of challenges facing pre-service teacher training by distance in the two countries as highlighted by the trainees themselves through the quantitative and qualitative data collected for the study.

The study found that the quality of training given to pre-service teachers in the selected ODL based universities is not inferior to the one their counterparts in conventional universities are receiving. This is established through the results of the data collected from the teacher trainees through questionnaire, and the one collected from the academic and support staff members of the sampled universities through interview. Hence, it was established in the study that majority of the pre-service teacher trainees sampled preferred pursuing their teacher training programme in the ODL based universities because of their desires to have independent of study, as well as the ability to work full time or doing private businesses without being hindered by their current studies.

The study also found the training and evaluation methods and channels being used by the ODL based universities to train pre-service teachers to be adequate, and capable of developing both content knowledge and pedagogical content knowledge of the student teachers.

Moreover, the result of the data collected from the student teachers through questionnaire revealed that many of them lack adequate information and awareness about the objectives and operational modalities involved in open and distance education. Thus the reasons why some of

the pre-service teacher trainees complained of not having constant face-to-face lectures like their counterparts in the traditional campus-based institutions.

In addition, the study identified that the methods adopted by ODL based universities to monitor and evaluate student teachers during teaching practice are the same as the techniques used in the conventional universities. School visits and classroom teaching observations by the university lecturers appointed as supervisors are the usual methods being used to assess the teaching practice of student teachers in the ODL universities sampled. However, the study identified insufficient teaching practice supervision in the ODL University selected in South Africa as some of the pre-service teacher trainees expressed their dissatisfaction to the fact that their supervisors sometimes fail to visit them at schools during teaching practice.

Furthermore, most of the pre-service teacher trainees sampled in the Nigerian based ODL university expressed some anxieties on the value of distance learning degree they are going to get in relation to employment opportunities in the country. This, perhaps, is due to the discrimination or unfair treatment being faced by the holders of distance learning degrees from prospective employers in the country (Aderinola, Egwuche & Afolayan, 2016).

Similarly, the study also found out that most of the pre-service teacher trainees sampled from the two countries are facing difficulties in securing spaces for teaching practices in some primary and secondary schools. This is also a case of discrimination whereby teacher trainees that finished from the conventional institutions are considered first while their counterparts from the ODL based institutions are treated as a left-over case.

8.5 Recommendations

The recommendations of this study are summarized below, in conformity with the four research objectives of the study.

8.5.1 Objective One: To explore the factors that motivates student teachers to enrol for distance learning based pre-service teacher training

The study found out that the major factors that motivate the selected student teachers to enrol for pre-service teacher training by distance can be summarized into two, namely; flexibility of the programme, and desire to work while study. However, data from the field work revealed that majority of the participants from the two countries were young and unemployed. It is, therefore, recommended for the ODL universities to give painstaking attention to organizing career discovery and sustaining seminars and workshops for their young and unemployed learners. It is true that the rising rate of unemployment in African countries is forcing the continent young population to engage in further studies so as to keep themselves busy while searching for jobs on the other side. However, institutions of learning that are producing these young people must give attention to the provision of entrepreneurial and employability trainings which will enable them to have self sustainability alternatives in case they could not secure jobs in the civil service or corporate organizations.

Moreover, since the number of young people seeking teaching qualifications through open and distance learning is rising by the day, it is suggested for the universities providing teacher training by distance to establish collaborations with private elementary and high schools in their neighbourhoods with a view to signing a deal that will allow their student teachers, who are willing to work but not currently employed, to be sent to the private schools as paid interns. This

will further serve as encouragements to the student teachers in terms of earning while learning, and also provides additional professional development opportunities for them while serving as interns.

It is also recommended for the universities providing ODL based teacher training programme to create a student-mentorship/tutorship programme that will allow senior student teachers that are unemployed, especially those in the final year of their studies, to mentor the prospective applicants and students in their first year on some modules and general operations/guidelines of the institution's teacher training programmes. However, the institutions must ensure that those students to be engaged must have excellent performance in their studies, especially if a student is engaged to take a new student through a module, he/she must have passed that module with a distinction or merit.

8.5.2 Objective Two: To explore the methods used by ODL based Universities to train pre-service teachers.

The result of the survey revealed several methods and channels used by the selected open and distance learning based universities to train pre-service teachers. These channels were aided by the advancement in Information and Communication Technology (ICT). To send teaching and learning materials to student teachers, the ODL universities sampled used electronic mails and postal services. Although, some of the respondents from South Africa complained of slow delivery of materials sent by post, the analysis of the data collected through questionnaire shows postal service as a significant channel through which majority of distance learners in South Africa receive learning materials. It is suggested that ODL based universities improved on the

delivery of study materials to learners by post by ensuring that these materials are posted earlier before the commencement of a semester or session.

Furthermore, the ODL institutions also employed the use of Learning Management Systems (LMSs) like Moodle, Blackboard, and other online portals which were specifically designed to get teaching learning materials to their students in text, audio and audio-visual formats. Social media platforms like Facebook, Twitter, and LinkedIn were also part of the online based platforms where electronic learning materials were transmitted to the students in the selected ODL universities. The study recommended for the ODL institutions to make audio lectures available on podcast to their learners which can be downloaded easily on mobile devices like cell phone and tablet. Also, lecture series on different modules on teacher education should be made available to the teacher trainees on social media platforms, especially sample videos on what is expected of student teachers during teaching practice, and videos on laboratory experimentations on science subjects.

Moreover, the study found mobile phone and tablet as the widely used platform by the participants not only to access teaching and learning materials but also to communicate with their colleagues and institutions. However, participating pre-service teacher trainees from the two ODL universities expressed their dissatisfaction on the difficulties they face when trying to access the university website and learning portals on their mobile devices. The study, therefore, suggests that the websites of ODL based universities be redesigned so as to make it more mobile-friendly because of today's upwardly mobile generation that is showing massive interest in ODL programmes. The development of mobile application that will be dedicated to teaching and learning activities of distance learners in the selected ODL based universities is also recommended.

8.5.3 Objective Three: To explore how the student-teachers put into practice the knowledge they acquired by distance learning.

Even though the findings from the survey revealed that student teachers in the selected ODL based universities had access to schools during teaching practice where they also gained access to school resources like library and laboratory, curriculum development, developing pedagogical content knowledge skills, and relating one on one with professional teachers, the information gathered from the survey revealed inadequate monitoring and supervision of teaching practice exercise of the sampled pre-service teacher trainees. Not only that, there seems to be a disconnecting point between the pre-service teacher trainees and universities anytime they are on teaching practice as many of them stated in the open-ended question sections of the questionnaire that they always find it difficult getting through to their institutions or lecturers whenever they want to pass a vital information across. It is, therefore, recommended for the ODL based universities to recruit more personnel to work in the Teaching Professional Unit where issues related to the administration, monitoring and evaluation of teaching practice of pre-service teachers are being handled.

Similarly, the study also recommended for the ODL universities handling pre-service teacher training to partner with private laboratories and research centres in different localities across the nation where the science based teacher trainees can have access to laboratory equipments whenever there is need for experimentation. This will not only boost the capacity of the student teachers by exposing them to latest science practical equipments in research institutes, it will also enable them to network with experienced/professional scientists.

8.5.4 Objective Four: To investigate the challenges facing pre-service teacher education in ODL based universities and suggests ways of improvement.

Several challenges confronting pre-service teacher education in the selected ODL based universities in the two countries were highlighted in both Chapter six and Chapter seven of this study. They include inadequate awareness of students about open and distance education and its modalities, difficulties in securing space in schools for teaching practice, inadequate funding opportunities for students in ODL based universities, gap in communication created by weak feedback system, anxiety over the value of distance learning degree, inadequate support for pre-service teacher trainees with disabilities, inadequate institutional supports for the academic staff, insufficient computer and I.T. skills among the pre-service teacher trainees, and inadequate access to the internet.

On the issue of awareness about ODL programmes, especially the pre-service teacher training by distance learning, it is recommended for the ODL based universities in the two countries, to refine their selection and screening processes such that the applicants, after obtaining application, will be duly interviewed , especially to find out from them if they actually have proper awareness and orientation about what it means to study by distance and if they are ready for the kind of independent learning adventures characterized by ODL, before they are shortlisted for the programme. The overwhelming number of requests for constant face-to-face lectures by the ODL based pre-service teacher trainees in the two countries, which was captured in the survey, revealed that many of them were not properly educated or informed about what is obtainable in ODL programmes.

Similarly, ODL based universities must strengthen their partnership with public elementary and high schools in their respective countries where their student teachers are usually posted for teaching practice. This can be done by organizing occasional capacity building training for the professional teachers as a way of refreshing their knowledge and also enlighten them more on the ODL based teacher training programme, or supporting the schools in any project where and when necessary. This will significantly renew the supports and commitments of these schools to the ODL based universities, and to their student teachers in particular.

Moreover, there is need to improve computer/ICT skills and competencies of teacher trainees in the selected ODL based universities. Farajollahi et al (2015) notes computer and ICT literacy skills as essential skills which every distance learner must possess for him/her to succeed in learning engagement. The survey results identified low level of computer literacy skills in some of the student teachers that participated in the study. Similarly, one of the academic staff interviewed in South Africa identified low computer literacy skills as a barrier that some distance learners are facing. The ODL based universities can introduce face-to-face computer practical classes to the first year students, or partner with ICT training institutes that can assist them in training their students on computer/ICT. The study noted the efforts of the South African ODL University in working with Tele-centres with the aim of providing access to computer and internet facilities for their learners located in remote areas. However, it is recommended for the university to use a section of the Tele-centre for training purposes, especially for the new entrants into the institution's pre-service teacher training programme.

Moreover, to ensure students' adequate access to the internet, the ODL based universities in the two countries are enjoined to partner with mobile telecommunication companies in their respective countries with the aim of negotiating for constant internet service for their students at

an affordable rate. Majority of the student teachers that participated in the survey identified mobile devices as the main access point to the internet, the partnership between the university and the mobile telecommunication companies can result to a special Monthly data subscription plan that will be exclusively for distance learners.

Furthermore, since interest of young people in open and distance education, especially the distance learning based pre-service teacher training, is growing daily, it is recommended for the bodies in charge of educational grants and scholarships in the two countries such as Department of Higher Education and Training (DHET), National Research Foundation (NRF), National Student Financial Aid Scheme (NSFAS) in South Africa, and Federal Ministry of Education (FME), Tertiary Education Trust Fund (TETFUND) and State Government based bursary schemes in Nigeria, to devote a portion of their grants to students in ODL based universities. This will create an inclusive educational support environment and ensure that no student is left out or disadvantaged because of the mode of studies.

8.6 Suggestions for Further Studies

The focus of this study is on pre-service teacher training in open and distance learning based universities in two African countries, namely South Africa and Nigeria. While this study has presented the state of initial teacher education programme in the selected ODL based universities in Africa, many prospects for expanding the scope of this research remain. This section highlights some of the directions that the future researchers can explore:

- In-service teacher training or Professional development training opportunities for primary and high school teachers in open and distance learning based universities.
- Discrimination against distance learning degrees in selected African countries: the causes, cost and solutions.
- Quality assurance or issues of quality in pre-service teacher training in selected open and distance learning based universities in Africa.
- Financing pre-service teacher education by distance in Africa countries.
- Challenges in science based pre-service teacher training.
- Open and Distance Education and overcoming the challenges of learners that are living with disabilities.

8.7 Policy Options and Issues

This study has significant policy implications for the generality of the actors and stakeholders in open and distance learning and teacher education in Africa be it government at national and State/Provincial levels, education planners and managers, Non-Governmental Organizations, teachers, academic and social researchers, and development practitioners in education, and the general public at large. The policy makers must see to the need that competent and well-trained teachers are the ones found in the classrooms. They must also ensure that those who are currently teaching without teaching qualifications are encouraged to enrol for further education and training where their capacities can be further developed. Distance learning based pre-service teacher training programme provides such pathway for the unprofessional in-service teachers who want to get professional without quitting their jobs.

Moreover, the issue of quality assurance in teacher training by distance has to be taken seriously by all stakeholders, if we want to be sure that distance learning will produce teachers that are capable of preparing future leaders for our societies or countries. Since about two decades ago, there has been considerable emphasis on quality assurance issues in open and distance education targeted towards further development of the universities and other higher education institutions across the nations of the world. Harman(2000, p. 1) put quality assurance to be "systematic management and assessment procedures adopted by higher education institutions and systems in order to monitor performance against objectives, and to ensure achievement of quality outputs and quality improvements". Since Quality Assurance contributes immensely to enhanced teaching, learning and managerial processes of educational institutions, it is imperative for the stakeholders in teacher education by distance in Africa to ensure proper checks and balances of the institutions involved such that their teacher training programmes meet the 21st century demand for better quality teachers.

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APPENDICES

APPENDIX A: ETHICS CLEARANCE CERTIFICATE

**UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE**
(Reg No: UZREC 171110-030)



RESEARCH & INNOVATION

Website: <http://www.unizulu.ac.za>
Private Bag X1001
KwaDlangezwa 3886
Tel: 035 902 6887
Fax: 035 902 6222
Email: ManqeleS@unizulu.ac.za

ETHICAL CLEARANCE CERTIFICATE

Certificate Number	UZREC 171110-030 PGD 2016/125						
Project Title	Examining pre-service teacher training in open and distance learning based Universities in South Africa and Nigeria						
Principal Researcher/ Investigator	SO Olaniran						
Supervisor and Co-supervisor	Prof MAN Duma				Prof DR Nzima		
Department	Social Sciences Education						
Nature of Project	Honours/4 th Year		Master's		Doctoral		x Departmental

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project proposal and the documents listed on page 2 of this Certificate.

Special conditions:

- (1) This certificate is valid for 3 years from the date of issue.
- (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date-31 July 2017]
- (3) Principal researcher must submit a report at the end of project in respect of ethical compliance.

The Researcher may therefore commence with the research as from the date of this Certificate, using the reference number indicated above, but may not conduct any data collection using research instruments that are yet to be approved.

Please note that the UZREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the documents that were presented to the UZREC
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

Classification:

Data collection	Animals	Human Health	Children	Vulnerable pp.	Other
X					
Low Risk		Medium Risk		High Risk	
		X			

The table below indicates which documents the UZREC considered in granting this Certificate and which documents, if any, still require ethical clearance. (Please note that this is not a closed list and should new instruments be developed, these would require approval.)

Documents	Considered	To be submitted	Not required
Faculty Research Ethics Committee recommendation	X		
Animal Research Ethics Committee recommendation			X
Health Research Ethics Committee recommendation			X
Ethical clearance application form	X		
Project registration proposal	X		
Informed consent from participants	X		
Informed consent from parent/guardian			X
Permission for access to sites/information/participants	X		
Permission to use documents/copyright clearance			X
Data collection/survey instrument/questionnaire	X		
Data collection instrument in appropriate language		Only if necessary	
Other data collection instruments		Only if used	

The UZREC retains the right to

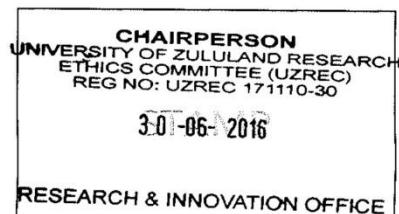
- Withdraw or amend this Certificate if
 - Any unethical principles or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in this Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project

The UZREC wishes the researcher well in conducting the research



Professor Nokuthula Kunene
 Chairperson: University Research Ethics Committee
 03 June 2016

SO Olaniran - PGM 2016/124



APPENDIX B: QUESTIONNAIRE FOR SOUTH AFRICAN RESPONDENTS

For office use: Respondent number: _____

ANNEXURE G 1: QUESTIONNAIRE FOR PRE SERVICE TEACHERS VOLUNTARY QUESTIONNAIRE FOR PRE-SERVICE TEACHER TRAINEES BY DISTANCE IN SOUTH AFRICA



Researcher: Mr. S.O. Olaniran
Supervisor: Prof. M.A.N. Duma
Co-supervisor: Prof. D.R. Nzima

**Faculty of Education
Department of Social Sciences Education
University of Zululand**

Dear respondent,

I am a doctorate degree student of the above named University and conducting a research study on “**Examining Pre-Service Teacher Training in selected Open and Distance Learning Based Universities in South Africa and Nigeria**”. This research study is purely an academic exercise and does not in any way have political, economic or social underpinnings.

Please do not write your name anywhere on the questionnaire, this will ensure that your identity is not revealed.

You are therefore requested to fill this questionnaire with utmost confidentiality.

Thank you for your cooperation.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'S.O. Olaniran'.

S.O. Olaniran

DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

SECTION A

Please read each statement carefully and indicate by a tick (✓) in the appropriate space(s) provided below. ***If you are filling this instrument online or on a computer and you are finding it difficult to use this tool (✓), you may type (Yes) in the space provided to indicate your response.**

1. Gender

Male	
Female	
Others	

2. Age group

18- 29 years	
30-39 "	
40 -49 "	
50 -59 "	
60 nd above	

3. Marital Status

Single	
Married	
Divorced	
Separated	
Widow/er	

4. Occupational Status

Public Servant	
Self Employed	
Volunteer	
Unemployed	

5. Religion

Christianity	
Islam	
Traditional	
Others	

6. Nationality

South African	
SADC	
Other African countries	
Outside Africa	
Others (Please state)	
.....	

7. Your Present Level of Study

Year 1	
Year 2	
Year 3	
Year 4	
PGCE	
Others	

8. Your current Province/Zone of Residence

KwaZulu Natal	
North West	
Limpopo	
Mpumalanga	
Gauteng	
Northern Cape	
Eastern Cape	
Western Cape	
Free State	
Outside SA (Please state where)	

SECTION B

9. Which certificate did you use to apply for this initial teacher education programme?

Matric	
University Diploma	
Bachelor Degree	
Others (Please state)	

10. Who is sponsoring your teacher training programme?

(a) Self	
(b) Parents	
(c) Employer	
(d) Spouse	
(e) Religious Organization	
(d) Community	
(e) Government grant	

(f) Others (Please state)	
------------------------------------	--

11. What is your specialization in Teacher Education programme?

Science Education	
Language and Arts Education	
Social Sciences Education	
Curriculum studies	
Technical Education	
Physical and Health Education	
Educational Psychology	
Others (please state)	

12. What format of lecture is commonly used by your institution?

Audio-Visual	
Audio only	
Text materials	
Black board	
Others (Please state)	

13. Which of the following lecture format do you enjoy most?

Audio only	
Audio-Visual material	
Black board	
Text materials	
Others (Please state)	

14. Why did you prefer the chosen format?

.....

.....

.....

15. How do you obtain course modules for your study?

Available for download on the university website	
Always sent as attachment to email	
Through the Class -Representative	

Through black board	
Pre-loaded CD-Rom	
Others (Please state)	

16. Do you have any disability or challenge that is affecting your study in any way?

Yes () No ()

If yes, please explain

.....

.....

17. Do you encounter challenges when accessing any of your course modules?

Always	
Occasionally	
Rarely	
Not at all	
I don't know	

19. What are the common challenges you encounter?

.....

.....

.....

20. Does central IT unit and/or Departmental IT provide substantive support when needed?

Always	
Occasionally	
Rarely	
Not at all	
I don't want to say	

21. Do you have unhindered access to internet?

Always	
Occasionally	
Rarely	
Not at all	
I don't want to say	

22. What is your major source of internet connectivity?

Mobile phone	
Computer at home	
Computer at work place	
Commercial Cybercafé	
Public Library	
Through a friend	

Please tick (✓) any of the following (or type 'Yes' in the appropriate space) to state your opinion or view as: Strongly Agree (SA), Agree (A), Strongly Disagree (SD), Disagree (D) or Undecided (UD).

Your motivation for enrolling for ODL based teacher training	SA	A	SD	D	UD
23. To have greater independence on my study					
24. To be able to do a full time job					
25. Distance Learning programme is the most affordable for me now since I wouldn't have to pay for a campus-based accommodation					
26. To be able to concentrate on my business					
27. Because I am on a full time programme with another institution					
28. To be able to take care of my children and family					
29. Because of its flexibility and learner's centeredness					
Your views on the training/materials/technologies/facilitators	SA	A	SD	D	UD
30. The teaching methods being adopted are quite helpful					
31. I found out that the online text, audio and visual materials are quite legible for study					
32. I found it difficult to understand some of the technologies being used for lecture delivery					
33. The lectures and lecturers are quite interactive					
34. I always receive instant feedback on any unclear issues on a lecture					
35. Studying by distance makes me feel more isolated					
Putting knowledge into practice during Teaching Practice (TP)	SA	A	SD	D	UD
36. I use technology resources when possible to enhance instruction and engage students during my TP experience					
37. I am able to use the laboratory equipments effectively to teach pupils despite studying by distance					
38. I find it difficult to engage pupils on sporting activities (You may skip if not applicable to you)					
39. I talk informally with pupils about their interests					
40. I provide opportunities for cooperative learning in my classes					
41. I always found out my pupils' interests and goals relating to					

my curriculum area					
Coping with Practical in Distance Learning (Respond to this section only if your study involves practical)	SA	A	SD	D	UD
42. I have access to interactive CDs which features video clips on science experiments					
43. I gain access through virtual experimentation provided on interactive computer-based simulations					
44. I do visit private laboratories to conduct my practicals					
45. I have home-based Improvised laboratory experimentation materials					
46. I do visit my school whenever I need to do practical					
47. I do not have access to practical					
Likely challenges facing your study					
48. Not able to interact physically with the institutions' based laboratory materials during training is limiting my functionalities during practical activities with my pupils					
49. The period allocated for tutorials before the end of the year examinations is inadequate					
50. I have found blackboard very difficult to use					
51. The technical support staff are most times reluctant in providing assistance because of the distance barrier					
52. Supervisors most times don't get to my school to observe me while on teaching practice					
53. I sometimes get fidgety in front of my pupils while in the classroom					
54. The technologies used for lecture delivery are sometimes not efficient					
55. My learning disabilities are not adequately recognized and acknowledged at distance					

56. Based on my experiences, the following can be done to improve the teacher training programme in my institution

.....

57. Do you think not having a face-to-face interaction with lecturers is limiting your performance in the classroom during teaching practice?

Yes () No ()

If yes, please explain.....

.....

.....

58. Do you have any regret at all, for being in an ODL based teacher training programme?

Yes () No ()

If yes, how do you think the regret can be addressed.....

.....

.....

59. From all responses, are there any other comments you wish to make?

.....

.....

.....

.....

.....

Thank you for taking your time in filling the questionnaires

APPENDIX C: QUESTIONNAIRE FOR NIGERIAN RESPONDENTS

For office use: Respondent number: _____

ANNEXURE G2: QUESTIONNAIRE FOR PRE SERVICE TEACHERS VOLUNTARY QUESTIONNAIRE FOR PRE-SERVICE TEACHER TRAINEES BY DISTANCE IN NIGERIA



Researcher: Mr. S.O. Olaniran
Supervisor: Prof. M.A.N. Duma
Co-supervisor: Prof. D.R. Nzima

**Faculty of Education
Department of Social Sciences Education
University of Zululand**

Dear respondent,

I am a doctorate degree student of the above named University and conducting a research study on “**Examining Pre-Service Teacher Training in selected Open and Distance Learning Based Universities in South Africa and Nigeria**”. This research study is purely an academic exercise and does not in any way have political, economic or social underpinnings.

Please do not write your name anywhere on the questionnaire, this will ensure that your identity is not revealed.

You are therefore requested to fill this questionnaire with utmost confidentiality.

Thank you for your cooperation.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'S.O. Olaniran'.

S.O. Olaniran

DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

SECTION A

Please read each statement carefully and indicate by a typing X in the appropriate space(s) provided below. Kindly delete the dotted lines and type your responses to the questions where required.

10. Gender

Male	
Female	
Others	

11. Age group

18- 29 years	
30-39 “	
40 -49 “	
50 -59 “	
61 nd above	

12. Marital Status

Single	
Married	
Divorced	
Separated	
Widow/er	

13. Occupational Status

Public Servant	
Self Employed	
Volunteer	
Unemployed	

14. Religion

Christianity	
Islam	
Traditional	
Others	

15. Ethnic Group

Yoruba	
Hausa	
Igbo	
Others (Please state)	
.....	

16. Your Present Level of Study

100 Level	
200 Level	
300 Level	
400 Level	
500 Level	
Others	

17. Your current Geo-Political Zone of Residence

South West	
South East	
South South	
North East	
North West	
North Central	
Outside Nigeria (Please state where)	
.....	

SECTION B**18. Which certificate did you use to apply for this initial teacher education programme?**

SSCE	
NCE	
University Diploma	
Bachelor Degree	
Others (Please state)	
.....	

10. Who is sponsoring your teacher training programme?

(a) Self	
(b) Parents	
(c) Employer	
(d) Spouse	
(e) Religious Organization	
(d) Community	
(e) Government grant	
(f) Others (Please state)	
.....	

14. What is your specialization in Teacher Education programme?

Science Education	
Language and Arts Education	
Social Sciences Education	
Curriculum studies	
Technical Education	
Physical and Health Education	
Educational Psychology	
Others (please state)	
.....	

15. What format of lecture is commonly used by your institution?

Audio-Visual	
Audio only	
Text materials	
Black board	
Others (Please state)	
.....	

16. Which of the following lecture formats do you enjoy most?

Audio only	
Audio-Visual material	
Black board	
Text materials	
Others (Please state)	
.....	

14. Why did you prefer the chosen format?

.....

.....

.....

.....

15. How do you obtain course modules for your study?

Available for download on the university website	
Always sent as attachment to email	
Through the Class - Representative	
Through black board	
Pre-loaded CD-Rom	
Others (Please state)	

16. Do you encounter challenges when accessing any of your course modules?

Always	
Occasionally	
Rarely	
Not at all	
I don't know	

17. What are the common challenges you encounter?

.....

.....

.....

18. Does central IT unit and/or Departmental IT provide substantive support when needed?

Always	
Occasionally	
Rarely	
Not at all	
I don't want to say	

19. Do you have unhindered access to internet?

Always	
Occasionally	
Rarely	
Not at all	
I don't want to say	

20. What is your major source of internet connectivity?

Mobile phone	
Computer at home	
Computer at work place	
Commercial Cybercafé	
Public Library	
Through a friend	

Please type X in any of the following to state your opinion or view as: Strongly Agree (SA), Agree (A), Strongly Disagree (SD), Disagree (D) or Undecided (UD).

Motivation for enrolling for ODL based teacher training	SA	A	SD	D	UD
21. To have greater independence on my study					
22. To be able to do a full time job					
23. Distance Learning programme is the most affordable for me now since I wouldn't have to pay for a campus-based accommodation					
24. To be able to concentrate on my business					
25. Because I am on a full time programme with another institution					
26. To be able to take care of my children and family					
27. Because of its flexibility and learner's centeredness					
Pedagogical content and Methodology	SA	A	SD	D	UD
28. The teaching methods being adopted are quite helpful					
29. I found out that the online text, audio and visual materials are quite legible for study					
30. I found it difficult to understand some of the technologies being used for lecture delivery					
31. The lectures and lecturers are quite interactive					
32. I always receive instant feedback on any unclear issues on a lecture					
33. Studying by distance makes me feel more isolated					

	SA	A	SD	D	UD
Putting knowledge into practice					
34. I use technology resources when possible to enhance instruction and engage students					
35. I am able to use the laboratory equipments effectively to teach pupils despite studying by distance					
36. I find it difficult to engage pupils on sporting activities					
37. I talk informally with pupils about their interests					
38. I provide opportunities for cooperative learning in my classes					
39. I always found out my pupils' interests and goals relating to my curriculum area					
40. Do you think not having a face-to-face interaction with lecturers is limiting your performance in the classroom during teaching practice?					
Coping with Practical in Distance Learning (If your study involves practicals, how do you go about it?)	SA	A	SD	D	UD
41. I have access to interactive CDs which features video clips on science experiments					
42. I gain access through virtual experimentation provided on interactive computer-based simulations					
43. I do visit private laboratories to conduct my practicals					
44. I have home-based Improvised laboratory experimentation materials					
45. I do visit my school whenever I need to do practical					
46. I do not have access to practical					
Challenges facing ODL based Pre-Service Teacher Training					
47. Not able to interact physically with the institutions' based laboratory materials during training is limiting my functionalities during practical activities with my pupils					
48. The period allocated for tutorials before the end of the year examinations is inadequate					
49. I have found blackboard very difficult to use					
50. The technical support staff are most times reluctant in providing assistance because of the distance barrier					
51. Supervisors most times don't get to my school to observe me while on teaching practice					
52. I sometimes get fidgety in front of my pupils while in the classroom					
53. The technologies used for lecture delivery are sometimes not efficient					
54. My learning disabilities are not adequately recognized and acknowledged at distance					

55. Based on my experiences, the following can be done to improve the teacher training programme in my institution

.....
.....
.....
.....
.....

56. From all responses, are there any other comments you wish to make?

.....
.....
.....
.....
.....
.....

Thank you for taking your time in filling the questionnaires

APPENDIX D

PARTICIPANT INFORMED CONSENT DECLARATION

INFORMED CONSENT DECLARATION

(Participant)

Project Title: Examining Pre-Service Teachers Training in Open and Distance Learning Based Universities in South Africa and Nigeria

Mr. Olaniran S.O. from the Department of Social Sciences Education, University of Zululand has requested my permission to participate in the above-mentioned research project.

The nature and the purpose of the research project and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the research project is to;
 - find out the reasons which motivate student-teachers to enroll in the ODL-based institutions in South Africa and Nigeria
 - examine the pedagogical content knowledge and methodologies offered by the ODL-based institutions to student-teachers in the two countries
 - **to find out how the student-teachers put into practice in the classroom what they have learnt through distance delivery mode**
 - **to investigate challenges facing the ODL-based teacher education programmes and suggest ways of improvement such that their programmes meet the 21st century demand for better quality teachers.**
2. The University of Zululand has given ethical clearance to this research project and I have seen/ may request to see the clearance certificate.
3. By participating in this research project I will be contributing towards generating new knowledge and scholarship about how student teachers by distance learn to teach and how this transfers into classroom/field/laboratory demonstrations; giving a deeper insight into the interrelationships between the mode of learning and teacher's output/supply and demand, and contributing to dialogue among the ODL providers and governments about the quality of initial teacher education programmes by distance in South Africa and Nigeria.
4. I will participate in the project by completing a voluntary questionnaire on pre-service teachers training in ODL based universities.

5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences.
6. I will not be compensated for participating in the research, but my out-of-pocket expenses will be reimbursed.
7. There may be risks associated with my participation in the project. I am aware that
 - a. The following risks are associated with my participation: No risks are anticipated.
 - b. The following steps have been taken to prevent the risks: No respondent will be pressurized into participation. Respondents will not be misled into providing specific responses.
 - c. there is a 0% chance of the risk materialising
8. The researcher intends publishing the research results in the form of a thesis and articles in learned journals and conference presentations. However, confidentiality and anonymity of records will be maintained and that my name and identity will not be revealed to anyone who has not been involved in the conduct of the research.
9. I will not receive feedback/will receive feedback in the form of a full research report regarding the results obtained during the study.
10. Any further questions that I might have concerning the research or my participation will be answered by:
 1. Researcher: Mr S. O. Olaniran
 2. Supervisor: Dr. M.A.N. Duma (035-9026495)
 3. Co-supervisor: Prof. D.R. Nzima (035-9026495)
11. By signing this informed consent declaration I am not waiving any legal claims, rights or remedies.
12. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I..... have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.

.....

Participant's signature

.....

Date

APPENDIX E

INTERVIEW SCHEDULE/QUESTIONS

Sunday Olawale Olaniran
Department of Social Sciences Education
University of Zululand
Private Bag X1001
KwaDlangezwa, 3886
Cell: +27846918625

Dear Sir/Madam,

PERMISSION TO CONDUCT RESEARCH

My name is Sunday Olawale Olaniran (Student No. 201551078). I am currently enrolled in the Faculty of Education, Department of Social Sciences Education at the University of Zululand. I would like to conduct the research for my Doctoral thesis under the supervision of Prof. M.A.N. Duma and Prof D.R. Nzima. The study is entitled: **Pre-Service Teachers Training in Open and Distance Learning Based Universities in South Africa and Nigeria.**

The Research Objectives are:

1. To investigate factors that motivate student teachers to enroll for teacher training programme by distance
2. To examine the pedagogical content knowledge and methodologies offered by the ODL-based institutions to student-teachers in the two countries;
3. To find out how the student-teachers put into practice in the classroom what they have learnt through distance delivery mode;
4. To investigate challenges facing the ODL-based teacher education programmes in the two countries and suggest ways of improving the programmes such that they meet the 21st century demand for better quality teachers.

I am hereby seeking your consent to conduct interviews with the following individuals in your University: Dean of Faculty of Education, Coordinators of Teaching Practice Exercise, selected lecturers in the Faculty of Education, and selected support service staff in the university.

With your permission, I will tape record the interviews so I don't have to make so many notes.

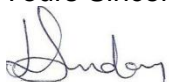
Time required: The interview will take approximately 45 Minute.

Risks: No risks are anticipated.

Benefit: it will contribute to the strengthening of teacher education programme by distance in your institution, South Africa and the continent of Africa as a whole.

Your co-operation in this study will be highly appreciated.

Yours Sincerely



Olaniran, S.O.

INTERVIEW GUIDE FOR ACADEMIC AND SUPPORT STAFF MEMBERS AT THE SELECTED ODL BASED UNIVERSITIES

1. What year did you start working here?
2. Can you please state your qualification/s?
3. Did you gain any of your qualifications by distance?
4. If yes, which one?
5. How many years of teaching/working experience do you have?
6. What are your main duties/responsibilities as a staff member of this institution?
7. Do you think there is/are thing(s) hindering you from performing your duties effectively?
8. If yes, what are they?
9. From your experience, how do you think these hindrances can be removed?
10. Kindly discuss various types of support services that are available to your learners, especially the teacher trainees?
11. Do you take science education modules?
12. If yes, how often do you conduct practical for your student teachers?
13. What are the common platforms through which your student teachers usually have access to practical/laboratory experimentations?
14. What methods and tools are used in conducting practical for your student teachers?
15. What is the most used channel of communication and feedback to and from your student teachers?
16. Unlike the traditional teacher training programme, do your students observe the seasonal teaching practice exercise?
17. If yes, what method do you use to assess their teaching practice?
18. Have you ever identified common shortcomings among your student teachers on teaching practice?
19. If yes, what are these shortcomings?
20. How do you think these shortcomings can be addressed?
21. From your experience, what can you point to as major differences between pre-service teachers trained by distance and those trained through the traditional campus-based system?

APPENDIX E

Acceptance Letters of Conferences where findings of the study were disseminated



UNIVERSITY OF ZULULAND

**SASE 43rd Annual
International Conference
2016**



Dear S.O. Olaniran,

Acknowledgement of attendance and presentation of a paper at the Southern Africa Society for Education 43rd International Conference

The 43rd SASE Conference organising committee at the Faculty of Education of the University of Zululand would like to thank you for attending the conference from the 28-30th September 2016 at the Premier Hotel The Richards (Richards bay).

The organising committee acknowledges your participation through:

- Presenting a paper titled; **"Dealing with learning disabilities in open an distance education: Exploring the experiences of distant preserve teacher trainees with special needs"** during the conference.
- Chairing a session on the 30th September 2016

We look forward to meeting with you at the 44th SASE International conference.

Yours sincerely,

Prof DP Ngidi

General Secretary/Treasurer – Southern African Society for Education

Dear Olaniran Duma & Nzima

ABSTRACT ACCEPTED

Congratulations, your proposal under the title **‘Learning to teach science subjects at distance: Exploring the issues and challenges in pre-service teacher education by distance’** within the panel: **Professional development** for the Early Childhood Development Conference to be held on 10 – 13 October 2016 in Potchefstroom (South Africa) has been accepted.

Your proposal will be presented as part of a panel discussion under an assigned topic. You will have 15 minutes to present your proposal. At the end of every one's presentation within your assigned panel, there will be a 30 minute discussion period.

As all abstracts will be published in the conference program, kindly note the following:

- **PLEASE submit THE FINAL TITLE with the names and affiliation of the presenters.**
 - Abstracts should be language edited;
 - Abstracts must be 10 pt in WORD format;
 - The aim and methodology used should be clearly explained in the abstract;
 - Final abstracts to be submitted before or on 1 September 2016
- See example below

TRANSFORMING WELFARE INSTITUTIONS THROUGH ACTION RESEARCH

Prof John Andersen - Roskilde University
Prof Annette Bilfeldt - Aalborg University

Keywords:

Social Innovation, Empowerment, Critical Social Theory, Nursing Homes, Community Centre

Abstract:

Danish society is as an example of a strong welfare state, which reduces social inequality and provides high quality public services. However there are still challenges regarding bureaucracy and the ability of public welfare institutions to meet citizens' needs. The paper aims to show how action research can contribute to social innovation and empowerment in public welfare and cultural institutions (in this case nursing homes and libraries). First we introduce the central concepts of *empowerment*, *action research* and *social innovation* along with the roots of these concepts in critical social theory. Secondly we present two action research projects with two different action research methods. The first action research project took place in a public nursing home, where the aim was more autonomy and better life quality for the residents. The project was inspired by critical utopian action research with *future creating workshops* and network conferences. The second action project was about transformation of a public library into a community center in a deprived multicultural urban area. In this project *empowerment evaluation* was the action research method. The nursing

home project contributed to empowerment of both residents and staff through the development of a more democratic praxis for care. The community centre project contributed to better public service breaking down barriers between citizens and the public institutions. The two approaches to action research framed empowerment processes in different ways. Special consideration has to be paid to ethical challenges (i.e. at the nursing home the power balance between staff and residents) and challenges connected to the implementation of innovative initiatives (i.e. at the community centre).

We are in the process of making arrangements to publish the conference proceedings in a special edition of an accredited journal. Even though we do not have final specifications yet, we would need to receive the final version of your paper not later than 13th October 2016 (last day of the Conference). We will communicate the final specifications regarding the formatting of the paper asap.

Please complete the attached registration form and send it to the conference administrator at fera@nwu.ac.za. Please feel free to contact the conference administrator, MrsSaartjie Venter, for further enquiries.

Regards



Dr Retha van Niekerk
Chair: Review committee

fera@nwu.ac.za



भारतीय प्रौद्योगिकी संस्थान मुंबई
पवई, मुंबई-400 076, भारत
Indian Institute of Technology Bombay
Powai, Mumbai-400 076, India

दूरभाष/Phone : (+91-22) 2572 2545
फैक्स/Fax : (+91-22) 2572 3480
वेबसाईट/Website : www.iitb.ac.in

IIT Bombay

The 8th IEEE International Conference on Technology for Education

September 14, 2016

To:

Mr. Sunday Olawale Olaniran (A06702576)
Department of Human and Social Sciences Education,
University of Zululand,
South Africa

Letter of Acceptance/Invitation for T4E 2016, Mumbai, India

Dear Mr. Sunday Olawale Olaniran,

On behalf of the organizers, we are pleased to invite you to participate in the **8th international IEEE conference on Technology for Education T4E 2016** ((A blind peer reviewed Conference <http://ask4research.info/t4e/2016>) and present your paper entitled, “**Availability, Access and Utilization of E-Resources among Pre-Service Teacher Trainees by Distance**” at the conference.

T4E 2016 will be held at the Indian Institute of Technology Bombay, Mumbai, India from December 2-4, 2016. T4E 2016 will provide a forum to bring together colleagues interested in promoting learning and teaching through the use of technology, and sharing the latest research results in this emerging interdisciplinary area of advanced learning technologies and pedagogy for technology-enhanced learning. **All accepted papers in the main conference will be published in proceedings and submitted to IEEE Xplore.** You may now proceed with the payment of the registration fees and email us back the scanned copy of your proof of payment.

We look forward to seeing you in T4E 2016.

Best regards,

Sridhar Iyer
T4E 2016 Local Organizing Committee Chair

Professor, IDP in Educational Technology
Technology
Indian Institute of Technology Bombay
Mumbai, India.
Phone: +91-22-256767905
Fax: +91-22-25764812
sri@iitb.ac.in

Sahana Murthy
T4E 2016 Program Committee co-Chair

Assoc. Professor, IDP in Educational
Indian Institute of Technology Bombay
Mumbai, India.
Phone: +91-22-256764860
Fax: +91-22-25764812
sahanamurthy@iitb.ac.in

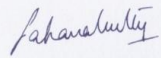



CERTIFICATE OF PARTICIPATION

This is to certify that

Sunday Olaniran

has presented / participated
in the 8th IEEE International Conference on Technology for Education
held from December 2nd - December 4th 2016
at the Indian Institute of Technology Bombay, Mumbai.


Sahana Murthy
Program Chair


Viraj Kumar
Program Chair





KMUTNB

King Mongkut's University of Technology North Bangkok

- Prime Minister's Award 2001 for the Best Academic Management and Development of Thai Universities
- Outstanding University President of Thailand Award 2001-2002
- H.M. The King's Award 2007 for the Best Organization in Science and Technology in Thailand
- Six World RoboCup Rescue Championships: 2006, 2007, 2009, 2010, 2011 and 2013

University of Creative Invention to Innovation

Acceptance and Invitation Letter

31 October 2016

Paper ID: 104

Paper Title: Investigating Challenges in Utilizing E-learning Resources among Pre-service Teacher Trainees by Distance

Authors: **Sunday Olawale Olaniran**

To Whom It May Concern

We are pleased to inform you that your paper identified above has been accepted for publication and oral presentation on IEEE Teaching, Assessment, and Learning in Engineering Conference (TALE 2016) to be held in Bangkok, THAILAND, during 7th - 9th December 2016.

Please note that registration fees, travel, living and accommodation expenses will not be supported by the conference organizer.

We are looking forward to seeing. **Sunday Olawale Olaniran**

Yours sincerely,

Asst.Prof.Dr. Panarit Sethakul
TALE 2016 Conference Chair

Secretary

Asst.Prof.Dr. Wattana Kawemanee

KMUTNB, Thailand

Tel.06-4274-9888

.....www.kmutnb.ac.th

1518 Pracharat 1 Road, Wongsawang, Bangsue, Bangkok 10800

Tel: +662-555-2000, Fax: +662-587-4350



Global Research & Development Services

ACCEPTANCE/ INVITATION LETTER (To Whom It May Concern)

Paper Title: Availability, Access and Use of Science Practical Equipments Among Pre-Service Teachers in Selected Open and Distance Learning Based Universities in Africa

Paper ID: GICICTEL1612064

Conference Name: 12th International Conference on Teaching, Education and Learning (ICTEL)

Conference Dates: Nov 25-26, 2016

Conference Venue: Middlesex University Mauritius, Avenue Droopnath Ramphul, Bonne Terre, Vacoas, Mauritius

Organizing Association: Association for Development of Teaching, Education and Learning (ADTEL)

Professional Conference Organizer: Global Research & Development Services

Name of Person Attending: Sunday Olawale Olaniran

Affiliation: Doctoral Student, Department of Human & Social Sciences Education, Faculty of Education, University of Zululand, South Africa

Participation Category: Oral Presenter

Authors: Sunday Olawale Olaniran

This International Conference aims to bring together industry, academia and professionals to exchange and share their scholarly ideas, research findings or experiences.

Herewith, the Conference Committee is pleased to inform you that the above mentioned delegate is cordially invited to participate in the aforesaid conference.

- The conference committee highly appreciates the researcher's work, and we request all concerned authorities to cooperate in the funding/ leaves/ visa process.
- The original articles accepted for the conference will be double-blind peer reviewed and published in conference journals without any additional publication fee if the registered author fulfills reviewer/ editor guidelines within stipulated time.
- The co-authors (if any) are also cordially invited for the conference. They need to kindly apply and register separately.
- This invitation is conditional on fulfillment of required registration formalities.
- This letter also certifies that the delegate is also, free life-time member of the scholarly association organizing this conference.

We would greatly appreciate if you could facilitate granting the conference delegate the necessary visa/ leaves/ grants.

Sincerely Yours,

Hema Khatwani

Conference Secretariat,

www.grdsweb.com

Email: info@grdsweb.com



**Global Research &
Development Services**