

**SECONDARY SCHOOL TEACHERS' EXPERIENCES OF DISTANCE
LEARNING MODE OF TRAINING IN MALAWI**

GODFREY B. MSUKWA

MASTER OF EDUCATION (MEd) DEGREE IN TEACHER EDUCATION

MZUZU UNIVERSITY

FACULTY OF EDUCATION

MZUZU, MALAWI

January 2015

**SECONDARY SCHOOL TEACHERS' EXPERIENCES OF DISTANCE
LEARNING MODE OF TRAINING IN MALAWI**

GODFREY B. MSUKWA

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD OF
MASTER OF EDUCATION (MEd) DEGREE IN TEACHER EDUCATION

OF

MZUZU UNIVERSITY

FACULTY OF EDUCATION

MZUZU, MALAWI

January 2015

DECLARATION

I, *Godfrey Msukwa*, hereby declare that this study is my own original work, and it has not been submitted for a degree or examination at any other university, and that all the sources that I have used or quoted have been acknowledged by complete references.

Signature..... Date.....

GODFREY B. MSUKWA

ABSTRACT

Researchers have found that distance learning approach is not different from that of conventional/face-to-face mode of learning, because distance learners perform the same as those in conventional learning, and sometimes even better. Distance learning mode has been viewed as an ideal approach of training teachers in Malawi due to limited intake of students to higher education institutions offering face-to-face training for teachers. As such, there is a great shortage of secondary school teachers estimated to be at 9,000 and ironically there is a high demand of higher education due to limited access.

The primary purpose of the current study was to explore secondary school teachers' experiences as well as their general perception of distance learning in their natural setting, and their interpretations and feelings towards it. The study involved secondary school teachers in selected secondary schools in Mzimba District in Northern Malawi, and data was obtained through in-depth interviews. The study is guided by the theory of constructivism and the results are discussed using qualitative approach within the interpretive paradigm.

Among the findings the study has revealed that distance learning provides an opportunity to teachers to upgrade while working. The results have further revealed that there is no difference between teachers trained through distance learning and those of face-to-face or traditional mode. In view of the challenges and opportunities noted in the current study, a number of recommendations have been made.

Keywords: *Distance learning/education, Perception, Experience, Constructivism, Face-to-face, Interaction, Learner autonomy.*

DEDICATION

I dedicate this dissertation to my dear sister, Jean, posthumously, who died on the very day I submitted my application for this programme. May her soul rest in peace.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisor, Mr Marisen Mwale for his tireless effort in assisting. This dissertation could not have been successful without his encouragement. The enthusiasm and interest he attached to this work are much appreciated and will ever be remembered. He has always been there for me that is why I have managed to complete my research on time because of him. Thank you very much.

A word of thanks also goes to the schools in which I conducted my research. Without your permission, this research would not exist. A special word of thanks again to all the three Head teachers, their willingness is not taken for granted.

My special gratitude goes to my beloved family. I thank my wife, Virginia, our son, Mark for their emotional support from the beginning to the end of my study. Without your love and support, this research would not have been completed.

TABLE OF CONTENTS

DECLARATION	iii
ABSTRACT	iv
DEDICATION	v
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS	vii
LIST OF FIGURES	x
LIST OF TABLES	xi
APPENDICES	xii
ABBREVIATIONS AND ACRONYMS	xiii
CHAPTER 1: INTRODUCTION	1
1.1. Background	1
1.2. Statement of the Problem	3
1.3. Purpose of the Study	4
1.4. Specific Objectives of the Study	5
1.5. Rationale of the Study	5
1.6. Significance of the Study	6
1.7. Definitions of Operational Terms	7
1.8. Organisation of the Study	9
CHAPTER 2: LITERATURE REVIEW	10
2.1. Introduction	10
2.2. Definition of Distance Learning	11
2.3. Overview of Distance Learning	12
2.3.1. Global Context	12
2.3.2. Malawi Context	16
2.4. Views on Distance Learning	17
2.5. Distance Learning as a Constructivist Approach	20
2.6. Role of Interaction	24
2.7. Learner Autonomy	28
2.8. Challenges Concerning Distance Learning	32
2.8.1. In Malawi	36
2.9. Conclusion	39

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY.....40

3.1. Introduction..... 40

3.2. Theoretical Framework..... 40

3.3. Research Design..... 43

3.4. Participants and Research Site 45

3.5. Sampling Technique 47

3.6. Data Collection 47

 3.6.1. Interview 48

3.7. Data Analysis..... 49

3.8. Trustworthiness of the Study 50

3.9. Ethical Considerations 51

3.10. Limitations 52

CHAPTER 4: FINDINGS OF THE STUDY53

4.1. Introduction..... 53

4.2. Themes and Categories 54

4.3. Demographic Information..... 57

4.4. Theme 1: Perceptions of Distance Learning 59

 4.4.1. Category 1: Provides Opportunity 59

 4.4.2. Category 2: Comparison with Conventional Learning 61

4.5. Theme 2: Interaction Between Students and Lecturers..... 66

 4.5.1. Category 1: Group Discussions..... 66

 4.5.2. Category 2: Challenges with interaction 68

4.6. Theme 3: Challenges affecting Distance Learning 71

 4.6.1. Category 1: Role Conflict 71

 4.6.2. Category 2: Lack of Materials 72

 4.6.3. Category 3: Distance to College and Study Circles 73

 4.6.4. Category 4: Period for Face-to-face Sessions 74

4.7. Theme 4: Suggested Ways of Improving Distance Learning 76

 4.7.1. Category 1: Establishing Resource Centres 77

 4.7.2. Category 2: Hands-on Activities 78

 4.7.3. Category 3: Enhancing Field Supervision..... 79

 4.7.4. Category 4: Orientation of Lecturers/Students 80

 4.7.5. Category 5: To have their Own Lecturers..... 81

CHAPTER 5: DISCUSSION OF THE FINDINGS	83
5.1. Theoretical Framework	83
5.2. Perceptions of Distance Learning	84
5.3. Interaction Between Students and Lecturers.....	87
5.4. Challenges Affecting Distance Learning	89
5.5. Suggested Ways of Improving Distance Learning.....	94
5.6. Chapter Summary	98
CHAPTER 6: CONCLUSION AND RECOMMENDATIONS	100
6.1. Introduction.....	100
6.2. Summary of the Findings.....	100
6.3. Implication for Education Practice	103
6.4. Recommendations.....	104
6.4.1. Promote Interaction.....	104
6.4.2. Establishment of Resource Centres.....	104
6.4.3. Practical Activities	105
6.4.4. Field Supervision	105
6.4.5. Lecturers as Facilitators	105
6.5. Suggestions for Further Research	106
6.6. Limitations of the Study.....	106
6.7. Conclusion	107
REFERENCES	108

LIST OF FIGURES

Figures 1: Conceptual framework	42
--	----

LIST OF TABLES

Table 1: Codes generated	55
Table 2: Themes, categories and codes	56
Table 3: Characteristics of participants	58

APPENDICES

Appendix 1: The Permission letter from Mzuzu University.....	123
Appendix 2: The consent form for teachers.....	125
Appendix 3: Interview guide questions for teachers.....	127
Appendix 4: Interview guide questions for Head teachers	128

ABBREVIATIONS AND ACRONYMS

ACDE : African Council for Distance Education

CDSS : Community Day Secondary School

CSS : Conventional Secondary School

DE : Distance Education

DEC : District Education Centre

DL : Distance Learning

FPE : Free Primary Education

MCC : Malawi Correspondence College

MCDE: Malawi College of Distance Education

ODL : Open and Distance Learning

CHAPTER 1: INTRODUCTION

1.1. BACKGROUND

The last decades have seen the exponential expansion of distance learning in many countries all over the world, in order to provide opportunities to everyone who qualifies to attend higher education (Peters, 2010). Indeed, distance learning in many countries has attracted and served students who seek access to higher education from different backgrounds, not only young students straight from secondary school, but also adults in full or part-time employment as well as upgrading of teachers. In essence, open and distance learning provides an opportunity for students whom life circumstances have rendered higher education attendance a distant dream (Pityana, 2004).

Owing to the lack of qualified teachers in sub-Saharan Africa and the inability of face-to-face training institutions to fill this gap adequately (Rumajogee, Jeeroburkhan, Mohadeb and Mooneesamy, 2003), many countries in this region, have begun to adopt distance learning as a mode of training teachers for primary, secondary as well as tertiary levels. Twenty five per cent of sub-Saharan Africa's 150 institutions offering distance education programmes are institutions that specialise in teacher training (Berge, 2007).

Distance learning is particularly appropriate to reach widely dispersed population without disrupting their personal, professional and social lives. Distance learning is applicable to Malawi because traditional institutions cannot respond adequately to an ever increasing demand for teacher education due to the introduction of free primary education in 1994, which has resulted into the shortage of qualified teachers at both primary and secondary school levels. As such, the current conventional teacher education delivery system of training teachers cannot totally cater for the high demand of teachers. According to Beutel (2011)

teacher shortages in Malawi may also result due to attrition; and the main causes of attrition are: retirement, death, other employment opportunities or personal reasons such as illness or family responsibilities.

Distance learning is referred to as a constructivist teaching and learning approach because, constructivist learning enables learners to discover things on their own and this helps to increase their motivation to find and carry out a means of completing a task successfully (Wells & Chang-Wells, 1992). This approach makes learners to be actively involved in constructing ideas or concepts from prior knowledge, rather than absorbing it passively from teachers or other sources (Harlen, 2000).

Teaching as a subject has, for years, attracted the attention of researchers on education at whatever level- primary, secondary or even tertiary, and using whatever delivery method, whether face-to-face teaching, distance learning or mixed mode approaches. It is generally considered that the way teachers are trained to acquire knowledge and skills is bound to influence how learning will be imparted to the pupils and how learning outcomes will be affected (Rumajogee et al., 2003).

Distance learning is being implemented in many countries all over the world by both public and private institutions as a mode of training teachers. The goodness with distance learning is that it enrolls students regardless of the geographical location and most of the times it is cheaper compared to residential universities. In Malawi, Domasi College of Education introduced distance learning as a delivery mode of training teachers as a result of a critical shortage of secondary school teachers. Founded in 1993 to cure a perceived secondary school teacher shortage nationwide, Domasi College of Education currently enrolls approximately 1480 trainees each year which include both conventional and distance trainees out of which 705 are distance trainees (Kalima, 2011).

Currently, Domasi College of Education as Kalima (2011) speculates is struggling to expand its capacity, infrastructure, enrolment and territorial reach in the area of distance learning. Despite Domasi College of Education's effort and other teacher training institutions which include the University of Malawi, Mzuzu University, Catholic University and University of Livingstonia among others, the nation's shortage of secondary school teachers, more especially science teachers remains very high. It is projected that by 2015 there will be a shortfall of over 10,000 teachers to teach 1.6 million secondary school learners (Kalima, *ibid*).

Despite these achievements by Domasi College of Education, teachers trained through distance learning faced a number of difficulties. This is so because the majority, if not all the learners were teaching in primary schools where there were no enough materials that they could use in their studies. In some cases, those studying science subjects meet a lot of challenges when it comes to conducting experiments, and this has forced learners to carry out experiments using common household materials and equipment (so-called kitchen chemistry) as an alternative to laboratory experiments (MacQueen & Thomas, 2009; cited in Bhukuvhani et al., 2012). It is finally argued that the success of distance education programme depends on improved perception, more commitment from all stakeholders as well as appropriate training (Chakwera and Saiti, 2005).

1.2. STATEMENT OF THE PROBLEM

The increasingly high teacher attrition rate due to change of jobs and HIV/AIDS among others is calling for quick and cost-effective solutions to shortage of qualified secondary school teachers in Malawi. One of the solutions is the introduction of distance learning. The Domasi College of Education with an annual intake of more than 900 distance teacher-

learners is catering for more than all conventional colleges in the country where continuing professional development of teachers can only be ensured through the distance learning mode because of the lack of bed-space in conventional face-to-face universities and colleges (Rumajogee et al., 2003).

In many African countries, distance learning is generally considered as second-best or second-chance education, and as a “face-saving” strategy in response to educational crisis (Rumajogee et al., 2003; Chakwera & Saiti, 2005). According to Pityana (2004), one element that must be noted with distance learning is that, institutions providing distance learning should overcome the stigma of inferiority that is often attached to qualifications from such institutions.

The long tradition of face-to-face (conventional) training of teachers has no doubt contributed to the mixed feelings about distance learning. For instance, quality assurance of both the products (learning materials, infrastructure and personnel) and of the process (face-to-face teaching, facilitation, counselling) remains questionable (Rumajogee et al., 2003). It is from this background that the researcher sought to explore the perceptions and experiences of secondary school teachers of distance learning mode at Domasi College of Education.

1.3. PURPOSE OF THE STUDY

The purpose of this study was to explore secondary school teachers’ experiences and perceptions of the distance learning mode of training teachers at Domasi College of Education, Malawi.

1.4. SPECIFIC OBJECTIVES OF THE STUDY

The specific objectives of the study were:

1. To establish teachers' attitudes towards distance learning mode of training.
2. To determine how teacher learners used distance learning as a constructivist learning approach.
3. To determine the quality of teachers trained through distance learning.
4. To identify challenges and opportunities in training teachers through distance learning.
5. To suggest ways of effective training of teachers through distance learning?

1.5. RATIONALE OF THE STUDY

There is a shift in the transfer of information from the conventional classroom to distance education. This is driven by advancements in telecommunication technology and the need for continuous skills improvement for workers who cannot get time to go to the conventional classroom.

However, there are two schools of thought about the value of distance learning. One school perceives distance learning as good and as effective as the traditional mode, while the other school of thought feels that distance learning diminishes the quality of learning. The two schools of thought oppose each other and this is why the researcher has been motivated to explore the experiences of secondary school teachers that were trained through distance learning in order to have a clear picture of how distance learning mode of delivery, has affected them as beneficiaries.

Furthermore, the experiences of constructivist instruction should be measured at least in secondary education in order to maximize all principles of this learning theory; therefore, secondary school teachers' experiences would provide a good understanding of distance learning as a constructivist teaching and learning approach (Haruthaithanasan, 2010).

1.6. SIGNIFICANCE OF THE STUDY

This study is expected to offer some insights into the teacher education programme on how to respond to the needs of teachers who are trained through the open and distance learning mode. Further, the study would provide useful feedback to institutions implementing distance learning programmes. The information is likely to help decision makers with relevant information on areas which require intervention or improvement in the implementation of open and distance learning for training secondary school teachers in Malawi.

The findings of the study would also provide feedback to Domasi College of Education on how the distance learning mode of training teachers affects the teaching and learning process in secondary schools. The feedback is useful in that, it will expose strengths and weaknesses encountered by teachers trained under the distance learning mode. The study is also significant because it may suggest ways that would assist Domasi College of Education to improve on the challenges that teachers trained through distance learning are facing as they carry out their duties.

The study has also implications that transcend Domasi College of Education and would help strengthen the implementation of distance learning as a mode of training secondary school teachers in other institutions, not only in Malawi but in Southern Africa in general.

1.7. DEFINITIONS OF OPERATIONAL TERMS

In order to avoid ambiguity, some key vocabulary terms used in this study are listed below. The definitions provided are mainly for the purpose of a working definition in this study only.

Experience: It involves active involvement in an activity or event over a period of time that leads to an increase in knowledge or skill.

Perception: It is an impression or understanding of a phenomenon based on what has been observed or thought. In this study it refers to teachers' attitude towards distance learning based on their experience.

Distance learning/education: The teaching and learning process in which the learner is separated from the instructor. That is, any form of instruction conducted when teachers and learners are not located in the same place.

Open and distance learning: It is an organized education activity based on the use of teaching materials in which constraints on study are minimized either in terms of access or time and place, pace, methods of study or any combination of these.

Conventional/traditional education: It is an old teaching and learning approach, which is mostly controlled by the teacher as opposed to distance education.

Constructivism: An interactive process during which teachers and learners work together to create new ideas in their mutual attempt to connect previous understandings to new knowledge.

Learner autonomy: It refers to the student's ability to make decisions about his or her learning and the extent to which students rather than the instructor establish the characteristics of a learning programme.

Interaction: Is a kind of communication involving two or more people. Interactions provide an essential influence on the development of college students.

Face-to-face: It is a learning approach applied in traditional or conventional education.

1.8. ORGANISATION OF THE STUDY

This dissertation is presented in six chapters. Chapter one provides the background, the problem statement, purpose and the significance of the study. Chapter two highlights the literature review on distance learning from various perspectives by providing a brief overview of the status of teacher education in developing countries, specifically in the Sub-Saharan Africa and Malawi in particular.

Chapter three outlines the methodology of the study and its justification. The chapter contains information on the research design, study population, sample and sampling procedures, data collection instruments and procedures, field testing of the survey instrument, and procedures for data analysis. The chapter also discusses the research paradigm and the theoretical framework guiding the current study. Chapters four and five present the findings and discussions of the study respectively; and finally chapter six provides the conclusions and recommendations of the study.

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

Compared with the traditional face-to-face education, distance learning provides an opportunity to students who could not have a chance of attending education because of one reason or another. One of the advantages with distance learning is that it provides equal opportunities to everyone with necessary qualifications regardless of geographical location. Therefore, colleges and universities need to devise strategies that meet the needs of students wishing to study through distance education (Chaney, Chaney and Eddy 2010).

There is vast literature relating to people's attitude and perception towards distance learning. For instance, when comparing the attitude of instructors and students towards distance learning, Hannay and Newvine (2006) discovered that instructors had conflicting attitudes about distance learning. While instructors were willing to teach a distance learning class, they rated the courses as equal as or lower in quality than traditional courses taught on campus (Inman, Kerwin, & Mayes, 1999). Students on the other hand were highly satisfied with the instructors and the distance learning courses taught; they were not concerned about the interaction with the instructors (Hannay& Newvine, 2006). However, there is not much on students' perceptions on distance learning as a constructivist learning approach.

This review of literature has concentrated on the definition of distance learning, background of distance learning, perceptions on distance learning, distance learning as a constructivist approach, role of interactions, learners' autonomy and finally challenges in distance learning.

2.2. DEFINITION OF DISTANCE LEARNING

Different researchers and educationalists define distance learning differently. For instance, Connick (1999) describes distance learning as a kind of learning that occurs when one engages in distance education. That is, when a student becomes a distance learner, they become a learner and the learning process they are subjected to is distance learning.

Aggarwal and Thakur (2003) define distance learning as the education from the distance and not face-to-face but indirect/remote or inanimate and involving a wide variety of channels and media. According to Perraton (2007) distance learning is an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner. Pailman (1986) concurs with Perraton (ibid) by describing distance learning as a kind of education in which a learner gets education while remaining at a distance from the teacher or teaching institution.

Similarly, Barron et al. (2002) cited in Chikuya (2007) clarify that distance learning as an instructional process whereby students separated by distance and/or time from their teachers or tutors undergo. Such learning, could be synchronous, that is occurring at the same time with the teaching process or asynchronous; meaning occurring at different times with the teaching process (Barron et al., ibid).

According to Keegan (1996) cited in Ojo and Olakulehin (2006) distance learning is an educational approach in which there is a quasi-separation of the learner and the teacher in time and space. Similarly, Whalstrom (2003) cited in Babelan (2012) defines distance learning as any type of education in which learners and instructors are separated by physical distance or time. Pityana (2004) concurs with Whalstrom (2003) by defining distance learning as a mode of learning in which the learner and the educator undertake the transmission and learning tasks without being mediated by time and space.

Bagwandeem et al. (1993) view distance education as a form of study not led by teachers present in classrooms but supported by tutors belonging to an organisation, which is a distance from the student. Bagwandeem et al. (ibid) make it clear that such study is very different from correspondence education because it uses a variety of media to reach the student while correspondence education only uses the print media.

Finally, Keegan (1990) illustrates that distance learning is not necessarily open learning. However, the policy to open access to learning succeeds with an educational method that involves some element of distance learning. This, to some extent, provides differences between distance learning and open learning, and these expressions are at times wrongly used in a synonymous way. All in all, distance learning incorporates terms such as, correspondence study, home study, independent study, external study, distance education, distance instruction and distance teaching, although the terms are not the same (Keegan 1996).

2.3. OVERVIEW OF DISTANCE LEARNING

2.3.1. GLOBAL CONTEXT

An increase in population has brought about a high demand for education from primary up to institutions of higher learning, such that conventional higher education cannot meet the demand because of lack of enough resources to redress the situation (Pityana, 2004). On the other hand, opportunities to participate in higher education have been considerably increased beyond the traditional classroom setting because of distance learning. Many mainstream institutions of higher learning have adopted distance learning as the next logical step in educational delivery systems (Gallogly, 2005).

Perraton (2000) cited in Chikuya (2007) argues that distance education began in 1963 while Daniel (1993) claims that it commenced in 1970. The debate on the exact date of the birth of distance education might be difficult to resolve but what is clear is that it is a fairly old practice. For instance, in the early 1700s, people had been using the postal services, which took very long time to reach the supervisor and vice –versa (Kamara, n.d.).

Furthermore, researchers debate that distance learning process is not new to the educational community. Tifflin and Rajasingham (1995) cited in Gallogly (2005) allege that the epistles of Paul the Apostle were a form of religious correspondence education. Letters written on papyrus by scribes were delivered by messengers to the early Christian communities to promulgate and explain religious dogma; although this may appear to be a stretch of the reasonable, it was in essence a distance learning program (Tifflin and Rajasingham, 1995).

One of the pioneer universities of distance learning is the Open University. After the opening of the Open University (OU) in the UK in 1969, many more open universities have been established in Europe and countries around the world (Othman, 2012). Distance learning as a delivery system of education has undergone three generations, as outlined by Waghid (2001), as follows:

- 1) Correspondence teaching/single media characterised by little or no production of materials. Students were given a reading list and set of sample questions which correspondence tutors marked.
- 2) Multi-media education characterised by the use of one-way communication (predominantly print, broadcasting and cassettes) with the two-way communication being provided by correspondence tutors, or face-to-face materials, and

- 3) Tele-education and third generation distance education based on the use of electronic information technologies such as telecommunications, computer conferencing or networking and, audio and video conferencing.

Of late African countries are advocating for distance learning as one way of providing equal opportunity to deserving students who could not make it to residential colleges and universities because of whatever reason. This is evidenced by the establishment of the African Council for Distance Education (ACDE), at a conference of African Vice Chancellors devoted to the development of distance learning in Africa held at Ergeton University in Kenya in January 2004 (Pityana, 2004).

The essential idea behind distance learning is that it opens up new opportunities to learners, some of which are: flexible approach to entry and attendance, allows learners to study what they like, when and where they find it most convenient and it also allows access to a mix of traditional and open learning managements (Nankhwenya, 1974; Perraton, 2007; Laymaman, n.d.; Paudyal, 2006; Yusuf, 2006).

Gallogly (2005) believes that for over 100 years, distance education has served as an alternative method for delivering academic course work to students unable to attend traditional campus-based classes. The format of distance education has varied from correspondence style courses to technologically based courses using the internet. Distance education has offered students considerable benefits including increased access to learning, lifelong learning opportunities, and convenience of time and place for study. Distance education may be essential for learners who are truly place-bound because of factors such as employment, child-care demands, disability, or remoteness of the location where they live Gallogly (ibid). Therefore, distance learning is suitable to individuals who cannot attend education in traditional classroom settings.

An increase in demand for higher education, has made distance learning acquire a great potential for solving educational problems today (Peters, 2010). One main reason for the rapid increase for distance learning is the proliferation of information and communication technologies. According to Peters (2010), information and communication technologies help in quick delivery of information at any time and everywhere, and this allows autonomous learning, more interactivity, more-orientation, and hence effective learning. In fact, distance learning started long time ago in the 19th century before the advent of new communication technologies (Peters, *ibid*).

In Africa, countries such as South Africa, Sudan, Nigeria, Tanzania, Rwanda, Kenya, Zimbabwe and Malawi are implementing open distance learning in order to help meet growing demands for higher education (Pityana, 2004). Distance learning is unique as it encourages a more flexible learner-centric approach and provides opportunities for learning anywhere and anytime (Kamara, n.d.). Therefore, distance learning could help in reducing the high illiteracy rate in third world countries.

Peters (2010) observes that some of the oldest institutions that offered distance learning long time ago include: the University of London, the University of South Africa and the four ALL-Union of Correspondence teaching universities of applied science in the Soviet Union (now Russia). Peters (*ibid*) further explains that University of London was established in 1836, whereas University of South Africa was established in 1873 and notable people like Nelson Mandela and Desmond Tutu earned their degrees there. Other reputable institutions in the world offering open and distance learning include: the Open University of United Kingdom, Indira Gandhi National Open University, Walden University, the Open University of Tanzania and many more others.

2.3.2. MALAWI CONTEXT

Malawi is one of the few countries in Africa that has had the oldest system of distance education. Open and distance learning in Malawi started in 1965 with the establishment of the Malawi Correspondence College (Msiska, 2013). In 1977, Aggrey Memorial School, a private institution of distance learning was established to offer both academic primary and secondary school education courses, professional and vocational education and training to a variety of artisan in Malawi (Msiska, 2013). Msiska (ibid) further explains that in 1987 the name changed from Malawi Correspondence College to Malawi College of Distance Education. According to Nankhwenya (1974) cited in Msiska (2013), the idea for establishing the Malawi Correspondence College was aimed at addressing the following:

- The challenges of a tiny fraction of primary school leavers continuing with secondary education.
- To improve the quality of teachers in primary schools through in-service training, thereby improve the standard of primary education.
- Meeting the need for continuing education of the rural people and
- Fostering agriculture development, health education and extension studies as a means of ensuring rural development.

Currently, in Malawi public institutions of higher learning that are implementing open and distance learning include: University of Malawi (Chancellor College) in collaboration with Amity University, Indira Gandhi National Open University and University of Madras, Blantyre International University, Mzuzu University and Domasi College of Education among others.

2.4. VIEWS ON DISTANCE LEARNING

There are different views regarding distance learning put across by different researchers and educationalists. It is no doubt that distance learning could make a considerable contribution to the increase in the equality of educational opportunity to people who may not have a chance of accessing higher education for one reason or another (Peters, 2010). At the beginning of the 21st century, universities faced numerous challenges that include the growing diversity of student profiles, the arrival of new technologies, the multiplicity of university programmes, as well as students' lack of motivation (Karsenti, 1998; cited in Gallogly, 2005). Distance learning has the potential to provide higher education "en masse" while the personnel remain in employment to continue serving the market (Pityana, 2004).

While some argue that distance learning is not an effective mode of learning, in contrast Chaney et al. (2010) argue that distance learning is neither superior nor inferior to the traditional face-to-face learning. This is so because over the years, academics as well as the general public perceived most non-traditional educational delivery systems as inferior methods of providing instruction and training (Gallogly, 1995).

A study carried out by Chakwera and Saiti (2005) discovered that there was no difference at all between the capabilities of teachers trained under open and distance learning and those under conventional training; and this enabled Domasi College officials to conclude that the two modes of training teachers were usable as training methods and could be given equal rating in as far as their suitability and effectiveness were concerned. Therefore, according to Brindley (1995) distance learning could be the answer to all that is wrong with the traditional educational system.

A study conducted by the United States Department for Education, Office of Planning, Evaluation and Policy Development (2009), revealed that on average students in distance

learning performed better than those who were doing face-to-face learning. Similarly, Ojo and Olakulehin (2006) also report that, there is no significant difference between learning outcomes that can be attained at traditional institutions versus distance learning. The findings of a study by Chakwera and Saiti (2005), showed that a comparison test between distance trainees and conventional trainees at Domasi revealed that no one model was superior to the other; this was so because of the quality assurance measures that were put in place. However, perception remained negative because people particularly in Malawi, had for a long time known no other training programme except the conventional system. Therefore, the success or failure of distance education may occur due to planning, designing, implementation, evaluation and sustainability of the programmes (Chaney et al., 2010).

Currently, traditional institutions that once questioned the validity of distance learning have recognised the demand for alternative mode of study and have begun to adopt distance delivery methods for some of their courses and programmes (Brindley, 1995). This has resulted into an increase in institutions offering distance learning courses all over the world; such that it has caused much questioning and debate about issues of quality, standards, outcomes, and retention. In essence, distance learning has forced educational institutions to rethink almost every aspect of learning (Klingner, 2003).

Nyandara (2012) explains that the difference with distance learning from the traditional education system is that, distance learning gives freedom to learn anytime and everywhere, therefore it lessens the gap in education by reaching to remote, underdeveloped and marginalised population. However, some argue that distance learning is not suitable to most developing countries because of lack of advanced technology. Pityana (2004) believes in most African countries Malawi inclusive, most advanced form of technology is not a viable medium for most distance learning students, because many live in very remote areas, generally in isolation.

Technology is indeed vital for distance learning because; it enables learners to have direct and immediate access to the instructor, it allows learners to transmit materials by electronic mail, they may also access the digital library and browse the internet and do their own research or learners may have lectures posted on the web (Pityana, 2004). Therefore, it could be assumed that with poor technology many African countries cannot competently implement distance education system.

Some people allege that qualifications obtained through distance learning are of low quality compared to those from traditional education, while others argue that there is no difference between qualifications obtained through distance or traditional education systems. In fact, studies have found little or no difference in the quality of education received through distance learning versus conventional classroom settings, because students taking distance learning courses perform the same as those taking courses via traditional methods (Gagne and Shepherd, 2001; cited in Ojo and Olakulehin, 2012).

A study by Gallogly (2005) which sought to investigate the relationship of student satisfaction levels in distance learning and traditional classroom environments at Embry-Riddle Aeronautical University found that distance learning and traditional classroom students experienced a high level of satisfaction in regard to almost all aspects of course quality. It was also determined that there was very little difference in the levels of satisfaction between the two groups.

To prevent doubts that people have on the efficiency of distance learning, Pityana (2004) advises that institutions that provide distance education should be undertaking a marketing strategy through radio or print medium to assure the integrity of distance learning qualifications in order to gain the confidence of employers, government and prospective learners. Quality concerns should be addressed through the administration of end-of-semester

examinations that are proctored in face-to-face settings (Ojo and Olakulehin, 2006). By so doing, stakeholders will have confidence in the effectiveness of the system (Pityana, 2004). Therefore, as Pityana (ibid) puts it; it is advisable that institutions implementing distance learning systems should make sure that there is stringent scrutiny and regular assessments.

2.5. DISTANCE LEARNING AS A CONSTRUCTIVIST APPROACH

Constructivist learning approach is based on the theory that students do not learn by directly memorising information from the outside world or by the transfer of knowledge from the teacher to students, but instead students learn by actively organising and making sense of information in their own ways (Prawat & Floden, 1994). In relation to constructivism, distance learning is a brand of teaching and learning process that allows learners to work on their own, rather than relying fully on the teacher.

Keegan (1980) describes the role of the learner in distance learning as being involved in carrying out studies in a place and at a time exclusively determined by the individual learner's peculiar circumstances. This makes distance learning to be referred to as a constructivist learning approach. The education field identifies this approach with the term "*social constructivism*" based on the interpretive paradigm, which holds that knowledge is not an external phenomenon to be acquired by the learner but is instead constructed by the individual through interpretation and synthesis of ideas (Kutz and Roskelly, 1991). This concurs with modern theories of learning that assert that the construction of knowledge occurs as students build understanding in light of experiences occurring in the world.

Constructivism could be understood as a theory of learning in which students construct knowledge in the process of learning through interaction with phenomenon, as they develop

shared-meaning of a phenomenon via interactions within a social context. Constructivist learning approach plays an important role in developing students' conceptual understanding and ability to communicate learned ideas. These approaches include teacher encouragement of student independent thinking, creation of problem-centred lessons, and facilitation of shared meanings (Ross, 2006).

Constructivist learning emphasises more on learners as constructors of their own knowledge, through interaction with others in their community (Januszewski & Molenda, 2008). Eventually, learners become active discoverers and constructors of their own learning from prior experiences (Pityana, 2004). Distance learning places the learner at the centre of the learning circle, not in isolation but as an interactive participant where the instructor does not only facilitate but also learns and discovers from the insights and experience of the learning (Goodman, 2008). It is evident from Keegan's (1980) description of distance learning/education that there is a tutor and a learner who are separated by distance and they initiate communication by use of the print media and the postal system.

Social constructivist learning is based on Vygotsky's learning theory (Vygotsky, 1978). Vygotsky (ibid) suggests that knowledge is first constructed in a social context and is then appropriated by individuals. Heins (1991) also concurs with Vygotsky that learners acquire knowledge from their social environment via perceptions and connecting themselves to life experience which is an individual phenomenon.

Piaget argued that knowledge is constructed as the learner strives to organize his or her experiences in terms of pre-existing mental structures or schemes (Bodner, 1986). According to Bodner (ibid), Piaget was the first constructivist in the sense that his view that knowledge was constructed in the mind of the learner was based on research on how children acquire knowledge; between birth and the acquisition of language. Constructivism is aligned with

active learning and encourages comparison of new ideas to prior knowledge (Piaget, 1967; von Glasersfeld, 1980; Vygotsky, 1978). Constructivism was defined by Slavin (2000) as the view of cognitive development that emphasizes the active role of learners in building their own understanding of reality. The theory of constructivist learning includes seven major principles: 1) learning personalization, 2) reflective thinking, 3) problem-solving and investigation, 4) relevance to daily-life, 5) collaborative learning, 6) discussion, and 7) teacher scaffolding (Haruthaithanasan, 2010).

Constructivist learning approach takes place in different forms such as: cooperative learning, independent learning, discovery learning, and social learning. The current study mainly focuses on social constructivism. According to Cooperstein and Kocevar-Weidinger (2004) social constructivist learning is enhanced by social interaction, and the constructivist process works best in social settings as students have the opportunity to compare and share their ideas with others. One of the characteristics with social constructivist learning is that it allows learners to exchange views, discuss problems and take part in educational discourses (Peters, 2010).

Constructivism, according to Vygotsky (1978) helps to prevent students from simply memorizing information, thereby promoting use of senses to obtain underlying meaning of phenomenon. This action promotes students' control of their own learning situation, or independent thinking (von Glasersfeld, 1996). Hence, constructivism allows students actively engage in the learning process by exploring ideas that are of interest. Therefore, in order to foster internalization, students need to participate in active exploration and discussion, so that they can integrate actions into similar ideas existing in the mind (Piaget, 1973).

Consequently, distance learning as a constructivist learning approach helps learners to think and investigate different ways of solving problems, because constructivism offers students

multi-dimensional and wonderfully unique characteristics (Goodman, 2008). Constructivist learning is not about how to teach but how students learn (Llewellyn, 2007). That is why advocates of constructivism put much emphasis on the learner rather than on the teacher. In view of this, students' interaction with others provides an essential element in distance learning as a constructivist learning approach.

According to Tomei (2009) learners are motivated by the interaction with a real problem, apart from interacting with others. Snowman and Biehler (2003) coincide with Roblyer and Jack (2000) by stating that constructivist learning has the following advantages to the learner:

- Allows learners to arrive at their own conceptions that are more meaningful than those proposed by others.
- Makes learners not to be rewarded when they seek to make sense of things that puzzle them.
- Helps learners to develop problem-solving skills and acquire confidence in their own learning abilities as a propensity to function later in life as problem solvers.
- Provides an opportunity to learners to learn how to learn as they learn.
- Allows learners to focus on learning through posing problems and exploring possible answers.

Holmberg (1977) looks at distance education as guided didactic conversation. That is, distance learning reduces learning to an enjoyable conversation, which only differs from the day-to-day conversation on the technicality of it being organised in a deliberate way Holmberg (ibid).

2.6. ROLE OF INTERACTION

Interaction plays a great role in any teaching and learning process. When people think about distance learning for the first time, they may have a tendency to assume that it lacks an interaction aspect because people are inclined to think about classroom interaction as something that exist primarily face-to-face (Bouhnik & Marcus, 2006). For this reason, it may seem that distance learning is an inferior form of learning compared to conventional classroom setting. However, education researchers dealing with distance education have observed that interaction in the distance learning environment is the key element to student success and transfer of knowledge (Gallogly, 2005). As such, the concept of interaction is fundamental to the effectiveness of distance learning (Murphy and Coffin, 2003).

Students interact with other students as well as with the concerned teacher discussing ideas and to share meanings. Interaction between the teacher (instructor) and the learner; and between learners themselves is as essential element in distance learning as it has been in the traditional delivery system for higher education (O'Malley, 1999). In distance learning, the geographical separation between the learner and the instructor is often bridged by communication media; be it electronically or otherwise so as to provide contact between the learner and instructor. This is so because use of discourse helps students formulate ideas and develop appropriate reasons for such thoughts. Interaction, therefore, allows students to make connections, build upon others' ideas, and realize their current level of understanding concerning a certain topic (Ross, 2006).

O'Reilly and Newton (2002) argue that interaction between students benefits them; in that it provides mutual support, friendships, a reduced sense of isolation and new insights into the concepts being studied. Learning normally occurs in social context; even for cognitive

learning, assimilation and accommodation require interaction between each individual and the environment (Prawat & Floden, 1994).

Contrary to Ross (2006) and O'Reilly and Newton (2002); Motteram and Forrester (2005), Fung (2004) and Kear (2004) contend that whilst some students gain support and reassurance from interacting with other students, others place little value on such activities or struggle to find the time to engage in them due to work and family commitments. Su, Bonk, Magjuka and Lee (2005) also agree that the extent to which students are engaged in interactions varies greatly due to the multiple commitments. According to Liu (2008) whilst some students enjoy interacting with other students, others prefer to study independently and keep interaction to a minimum.

Theorists have suggested that there are several characteristics that may affect the dropout rate in distance learning, which in turn may affect retention. Some of the characteristics include: educational background, personality traits (including learning styles), and extracurricular concerns such as work and family obligations (Moore & Kearsley, 1996). There is some evidence that interaction between students and instructors may also influence student retention (Dillon & Cintron, 1997). Therefore, interaction is important in distance learning because it enables dialogue amongst students and between the teacher and students, and this according to Dillon and Cintron (1997) helps to improve the otherwise non-helpful and hostile and unfriendly distance that separates students and teachers.

Interaction in distance learning could be done in a number of ways, however for the purpose of this study only two types of interactions will be examined and these are; learner- teacher interaction and learner-learner interaction (Murphy and Coffin, 2003; Babelan 2012; Moore,1993). Yusuf (2006) highlights that between the student and the content; interaction can be done through interactive and non-interactive media.

The rapid spread of the internet may significantly assist in promoting interaction between instructors and learners. Social-constructivist theorists argue that learners actively construct knowledge by linking new information to their existing knowledge base through social interaction (Watson, 2009). Indeed, interactions by the learner provides an essential input to the process of construction of knowledge in distance learning, hence social constructivism focuses on cognitive process that occur as people learn through social interaction, such as learning and working with others (Wells and Chang-Wells, 1992; Snowman and Biehler, 2003; Dymoke and Harrison, 2008).

According to Ross (2006) engaging activities involving discussion (interaction) promotes individuals' abilities to make sense of experiences and develop identities as learners. The construction of new knowledge by students in constructivist learning approach occurs when prior student's experience is restructured in the mind of the learner through a process of interacting with the teacher and other students (Llewellyn, 2007).

Despite the fact that distance learning offers major advantages such as flexibility in learning, they are not for everyone, because, students need to understand their own learning styles and the level of interaction that they need to be involved. This is so because those who thrive on the social aspects of the traditional classroom or who enjoy face-to-face lectures may have difficulties with distance learning (Jana, 1999; Ramos, 2001).

Even though, constructivism puts much attention on individual learners and views teachers as mere facilitators in the learning process, the teacher's role is also vital. There is need to have effective interaction between the learner and the instructor, because the fundamental role of the teacher is to help the students generate connections between what they are supposed to learn and what they already know or believe (Abruscato, 2008). Hence, teachers not only do they facilitate but also provide guidance during the learning process. This is also supported

by Peters and Gega (2003) who postulate that the teacher's role in distance learning is to provide best materials and learning situations to make learning individually meaningful for each student.

In a study titled utilizing constructivist teaching approaches involving problem-posing, Cunningham (2004) cited in Ross (2006) found that students become more engaged in the lesson when discussing ideas in small groups of three to four. By examining numerous examples of students' responses, the study revealed that mathematics students gained higher reasoning skills and deeper understanding of mathematics, as well as more reflection from the concurrent engagement because of group discussions. Interaction therefore, develops deeper-level thinking as students explain ideas (Wood & Sellers, 1997). Consequently, successful distance education teachers must become conversant with new technology and develop new instructional styles as they move from creating instruction to managing resources and students and disseminating views (Strain, 1987).

Although constructivism is being promoted as one of the approaches that should be used in distance learning, some researchers and educators have criticized it. Critics argue that constructivist learning approach puts much emphasis on the individual learner and ignores the social context in which learning takes place, thereby underestimating the role of teachers and other learners who support the individual learner (Pollard, 1997). However, the teachers' role is more significant because learners may not be able to learn without direction.

Teachers play a significant role in that they plan and organise learning environment and provide experiences to facilitate and guide students (Carin, 1997). Moreover, "teachers will use some directed instruction as the most efficient means of teaching students required skills; teachers will always need motivating, cooperative learning activities to ensure that students

want to learn and that they can transfer what they learn to problems they encounter” (Roblyer and Jack, 2000:52).

Moore (2001) notes that to be successful in delivering distance learning courses, instructors must: allow student to student interaction with minimal interference; engage students in regular assignments in order to monitor progress and intervene when needed; provide specialized attention to students with low levels of self-directedness; and help students become more self-directed. This would help students in that, students in distance education courses and programmes often feel isolated and apprehensive, due to may be, lack of student to student and student to instructor contact (Muilenburg & Berge, 2001).

In conclusion, the most appropriate medium of delivering instruction to students via distance learning does not necessarily mean the newest or the most expensive technology available, because there are several factors to consider such as learner autonomy, types of interactions, access and cost of media (Chaney et l., 2010).

2.7. LEARNER AUTONOMY

Learner autonomy allows individual learners to be independently involved in generating knowledge on their own; hence distance learning as a constructivist learning approach enhances learner autonomy. According to Gallogly (2005) learner autonomy has made it possible for students living in remote areas to attend accredited college programmes. Therefore, learners need to be given the responsibility of selecting tasks in which they engage, deciding on the means to be employed in carrying them out and for evaluating the outcomes in order to gain an active understanding of the principles involved and the procedures that may be effective in achieving the desired outcome (Wells and Chang-Wells,

1992). However, learner autonomy does not mean letting learners carry out tasks unassisted, support is needed if learners experience difficulty in some areas.

McInerney and McInerney (2009) state that distance learning should employ methodologies that emphasise individual initiative and creative thinking in learning. Because, distance learning as a constructivist learning approach encourages an active involvement of the learner, hence gives the learner autonomy over their studies. According to Januszewski and Molenda (2008) learner autonomy can be done by empowering students to choose their own goals and their own learning paths. Amundsen (1993) believes distance learning creates an atmosphere of independent learning and teaching leading to learner autonomy.

Learner autonomy is important in distance learning because as Carin (1997) portrays, autonomy is a powerful and effective learning approach in active learning process, that enables learners to construct ideas on their own from prior knowledge. It is advisable that distance learning should have innovating teaching approaches that focus on the students' ability to solve real life and practical problems that call for students to construct knowledge themselves rather than simply receiving it from teachers as it is with the traditional approach (Roblyer and Jack, 2000).

Gallogly (2005) asserts that success in distance learning is ultimately dependent on an individual's personal desire, initiative, resourcefulness, and persistence. Hence, learner autonomy is important for effective learning to take place in distance learning and it should be enhanced because it enables students construct knowledge and understanding of the world according to their own concepts, levels of development and previous experiences (Tomei, 2009; Goodman, 2008). A frequent criticism of constructivist methods is that teachers are too "hands-off", leaving students to teach themselves (Tomei, 2009). Once again constructivist

pedagogy does not relieve the teacher of the responsibility to teach; but rather it is the act of designing experiences that enable learning to take place (Hubbard, 2012).

It has been argued that use of information technology helps to enhance learner autonomy in distance learning. Bates (1995) believes that technology provides greater learning effectiveness if well implemented because it is more learner-centred and produces better quality interaction between the learner and the information, as well as between the learner and other learners. Lundin (1993) also agrees with Bates (1995) by showing more praise for technology, especially on-line learning. According to Lundin (ibid) use of communication technology by most virtual universities, for example, the e-mail, internet, relay and web conferencing, allows for the exchange of ideas and messages between students and tutors. This makes technology handy in communication needs of educational interactions and helps open and distance learning overcome all forms of isolation. Such isolation could be worsened by remoteness that usually characterises rural areas (Chaya-Ngam, 1993).

Even though much praise has been given to the use of technology, there are some criticisms concerning use of technology in distance education. One of such critic is by Castro and Castro (1998) cited in Chikuya (2007) who highlight that if much attention and resources are devoted to the use of technology this diverts people's attention from other issues of importance which are; effective learning and good teaching. On his part, Whitworth (1999) who is equally doubtful of the use of technology in distance learning says equipment can act as a barrier between learners and their instructors. On the contrary, Lundin (1993) claims that technology helps education to: 1) do things in a better way; 2) do things previously impractical; and 3) do new things.

Therefore, as Chikuya (2007) speculates, these three capabilities injected into education by technology are of developmental in nature, which any social service can only ignore at its

own peril. Chikuya (ibid) further argues that the three capabilities are in fact indispensable to the survival of this institution called education, let alone distance learning. Technology could be used in what is called “tele-teaching” in distance education, in developing countries as it defies lack of higher education facilities in remote areas (Gallogly, 2005; Othman, 2012). Furthermore, tele-teaching also allows workers in developing countries to retain their jobs since it is known that developing countries have limited capacities to offer the much needed higher education without leaving one’s employment.

The idea of using technology in distance learning is a good development because technology assists in providing higher education to large sections of the community, particularly those who live in rural areas, working people, housewives and any other persons wishing to upgrade their qualifications without moving out of the normal living environment. Technology based distance education is an increasingly visible feature of post-secondary education, because it permits educators to define, design, and manage effective and robust teaching and learning systems, programmes and courses (Matthews, 2002).

Technology as Willis (1993) explains, is a pedagogical component that is used to bridge the instructional gap which is created by the physical separation of students and teachers. Therefore, the importance of technology in distance education cannot be overlooked because it provides the answer to an everlasting problem of the need to provide higher education to an increasing population of clients residing in highly rural areas.

Bates (1995) asserts that the use of technology in distance learning is making distance education effective and purposeful. However, Whitworth (1999) sees technology failure creeping in depending on the quality of the equipment being used and its age; this calls for a back-up plan to avert the failure of planned tutorial sessions. Nevertheless, Bates (1995)

points out that technology cannot replace a teacher because the need to keep the human role in teaching cannot be overlooked.

2.8. CHALLENGES CONCERNING DISTANCE LEARNING

There are a number of concerns regarding distance learning as a means of learning. Mwale (1993) cited in Chikuya (2007) observes that distance learning in general was previously considered an unsatisfactory method of learning and was relegated to catering for those individuals who had failed to obtain education through normal and conventional means. Mwale (1993) gives examples of girls who leave school because of pregnancy as the commonest group of people who are deemed suitable for distance learning. This gives distance learning a negative image and portrays it as a method not equal to the conventional mode.

Hobbs (1997) also observes that the appropriateness and effectiveness of using open and distance learning for teacher education is still held in doubt by many people despite its success in providing various postgraduate and teacher education related certificates. People's argument is based on the fact that they perceive teaching as very much a person to person activity, which cannot be provided in any other way besides the conventional process (Hobbs, 1997). Similarly, the same negative image caught up with University of South Africa (UNISA) during its launching period (Chikuya, 2007). UNISA was at one time labelled a certificate factory; as a result it was looked down upon. Some quarters called it a catechism class because of its perceived departure from the traditional and conventional ways of instruction (Chikuya, 2007).

Some of the hiccups with distance learning as observed by Brindley (1995) include: lack of resources for distance learning institutions and often they rely on outmoded information systems, there are too few staff with little training, inadequate infrastructure to support operations. As such, institutions find themselves under pressure to meet the incredibly unrealistic expectations to serve an ever increasing demand for education with little resources and little infrastructure in a highly competitive environment (Brindley, 1995).

Studies reveal that developing countries face similar challenges that affect distance learning. For instance, in Nigeria according to Yusuf (2006) open and distance learning is affected by a number of problems such as: a) problems of electricity, b) poor telecommunication facilities and lack of access, c), poor postal systems, d) poor information communication technology and e) lack of consistency in policy implementation.

While it is clear from the discussion above that technology has both strengths and weaknesses, it is encouraging to note that Daniel (2005) recognises the inaccessibility of certain kinds and levels of technologies in most African countries because of limited development and resources. As such, he encourages Africans to utilise technology in open and distance learning. On the other hand, Daniel (ibid) provides words of advice and caution by saying: Africans should not be mesmerised by technologies that are not available to them; Africans can innovate too.

Ding (1994) sees technology failure as a challenge that distance learning has to have full control over, or have the ability to reduce its impact on learning. The fact that open and distance learning relies heavily on technology makes this challenge an unavoidable one to all open and distance learning practitioners. Ding (1994) also raises the fact that where technology is employed, the instructor has far limited control over the events in the learning process, as such s/he risks losing even that limited control that s/he might have.

Likewise, Bates (1995) warns on the use of technology for distance learning. He says that, while technology does promise greater effectiveness, it is important that distance education practitioners are not carried away by the hype. Similarly, Chikuya (2007) advises that where possible technology should be used cautiously and appropriately so that users retain control over its use; so as to avoid overusing it and denying users the chance to concentrate on the business of learning.

A study by Chikuya (2007) which aimed at investigating the link between college training experiences of primary school teachers and the course content of the degree programme offered by the Zimbabwe Open University in order to determine the level of professional gains realised by primary school teachers, revealed that the effectiveness of the open and distance learning strategy, in the case of the Zimbabwe Open University situation, was somehow compromised by the limited technological back up to the teaching and learning process. The study also found that limited technology based teaching adversely affects the learning processes of students resident in rural areas as they incur high traveling costs to attend tutorial sessions which they are forced to heavily rely on, due to prevailing circumstances. These tutorial sessions tend to play a centre stage since they are useful and effective.

Therefore, as Chikuya (2007) articulates the limited use of technology stands out as the most visible limitation which could have a bearing on satisfying the requirements of open and distance learning as viewed by other users of this strategy. The critical importance of using technology in open and distance learning as Bates (1995) justifies, serves to defy barriers and accommodate a large population of learners who reside far from the main institution. This is supported by the findings from the empirical investigation by Chikuya (2007) who discovered that limited use of technology based teaching by the Zimbabwe Open University

causes inconveniences, avoidable expenses and disadvantages for the rural students who have to travel long expensive distances to attend face-to-face classes.

In the absence of widespread technology based teaching, Chikuya (2007) recommends that distance learning institutions should do everything possible to decentralize into districts and service centres to make education affordable to people living in rural areas as this will cut traveling costs. Furthermore, Chikuya (ibid) further suggests that institutions should do everything possible to access a suitable and sustainable technology employable in the effective provision of technology based teaching for purposes of strengthening the effectiveness of the open and distance learning.

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 other reasons for the complexity of the learning process for online students.

Knapper (1988) cited in Gallogly (2005) has noted that distance learners were more likely to have insecurities about learning. These insecurities are often founded in personal and school related issues such as financial costs of study, disruption of family life, perceived irrelevance of their studies and lack of support from employers. These pressures have resulted into higher dropout rates in distance learning than among traditional classroom students (Sweet, 1986).

Another area of concern for the distance learning students is said to be lack of feedback or contact with the tutor. This is because there is not daily or weekly face-to-face contact with teachers; as a result students may have trouble in self-evaluation. Keegan (1986) cited in Gallogly (2005) believes that the separation of student and teacher imposed by distance removes a vital link of communication between these two parties, in that distance learning

courses need to be more interactive than traditional ones (Mangan, 2001; Rosenbaum, 2001), because interaction makes it easier for students or those who need more response time to participate (Smith, 2001). Distance learning courses need to give students the opportunity both for team building with their classmates and for community building (Ramos, 2001).

Student/instructor communication is vital to distance education success, as such should be established quickly; because immediate instructor contact reassures students and builds confidence. The online interactive capability provide students with a platform to become acquainted, share concerns, offer support, and hopefully relax and enjoy the course. This strategy also assists the instructor to identify early those students that might encounter difficulties (Keller, 1983; Keller & Burkman, 1993). Therefore, the link must be restored through unconcealed institutional efforts so that the teaching-learning transaction may be reintegrated.

Lastly, poor access to the library among others also poses as a challenge to distance learning. Poor access to libraries, student advisors, lecturers, financial aid, and technical support all influence motivation levels of the student (Bontempi, 2003). Without proper support, as Bontempi (2003) clarifies students often develop a sense of learned helplessness which in turn, acts as a de-motivator leading to levels of dissatisfaction with distance learning and in some cases education in general.

2.8.1. IN MALAWI

Some of the challenges that affect the implementation and sustainability of distance education in Malawi include:

- 1) Lack of support from all stakeholders;

Many stakeholders do not support distance education in the sense that they allege that distance learning cannot replace the traditional classroom. Despite having different opinions, if distance learning is to be a successful method of delivering education, all stakeholders—including parents (guardians), lecturers, students, and employers need to accept it as a practical and effective instructional method.

2) Distance education requires changes in Classroom Teaching;

As indicated earlier on, many lecturers have reservations about this new method of educational delivery. As such, many aspects of instruction must be changed when lecturers shift from the traditional classroom to the distance education environment.

3) Poor student support services;

Library, internet and communication services are some of the services that distance learners need to access. In Malawi, there is a big problem concerning the aforementioned services. As such, it becomes difficult for distance learners to access these services, hence struggle with their studies.

Nihuka and Voogt (2011) stipulate that lack of effective communication and interaction between instructors and learners and delays in delivering of study materials and assignments are some of the challenges that affect distance learning. A study carried out by Nyandara (2012) aimed at investigating challenges and opportunities of technology based instruction in open and distance learning in Tanzania and China; found that distance learning is affected by the following:

- Inadequate funds for staff and infrastructure development.
- Lack of systematic approach to information communication technology (ICT) implementation, access to internet/computer is very expensive in case of connection.

- Traditional means of teaching and instruction still dominate, especially in developing countries.

In essence, it is clear that technology is usable and critical, in distance learning in general and in teacher education in particular. Therefore, its effect and ability to cater for large numbers of students is highly appreciated. However, it being a potential barrier to interaction between learner and instructor and the fact that it has become more popular than the teaching and learning processes, are some of its negative aspects, which, though, should be viewed positively in order to turn them into usable strategies (Chikuya, 2007).

In general, common challenges noted by Banda (n.d.:2) that distance learning students face in Malawi include:

Domestic workload, lack of sleep, lack of electricity in most homes, the overwhelming number of assignments, unsupportive spouses, communication problems, scarcity of reference materials in the field, feedback from lecturers taking long, teaching overloads, attending to babies especially during residential and examination sessions, people's negative attitudes towards women, death of relatives or community members, sickness of children, spouses or relatives, spouses needing attention, friends wanting to chat, time constraints, modules not thoroughly introduced during residential sessions and isolation from fellow learners.

Female learners in particular have family problems that affect their studies. For instance, some female learners drop out of the programme on instructions from spouses who ask the females to choose between marriage and education (Banda, n.d.). Considering the value of one being married in the Malawian context, and probably in other cultures in Africa, as well as opposed to being single especially divorced, the females opt for marriage. Banda (ibid) further articulates that some female-learners studying under the distance learning programme

reported that whenever their husbands saw that they were studying, they could give them some other piece of work. This was done to discourage them from studying and perhaps have them demoralised and eventually drop out of studies.

Although there are a number of challenges affecting distance learning, these challenges might motivate students to work very hard to achieve their goals; hence challenges could influence intrinsic motivation of the learners.

2.9. CONCLUSION

From the review of literature, it has been observed that a number of studies have been done on open and distance learning. For instance, research data on students' attitude toward distance education has been grouped into the following categories: attitude toward technology, teaching method, student-teacher interaction, student-student interaction, attendance or non-attendance at the university (Babelan, 2012). A study by Brunstein and Maier (2005) cited in Babelan (2012) report that academic achievement of students and their success studying through distance learning are influenced by the interaction. However, most of the studies that have been carried out have not specifically focused on teachers' experiences of distance learning mode of training. Hence, there is need to conduct such a study.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1. INTRODUCTION

This chapter discusses the theoretical framework and the techniques used in the current study. The chapter mainly focuses on the following areas: research design, participants and research site, sampling techniques, data collection instruments, data analysis techniques, trustworthiness, ethical considerations and limitations of the study.

3.2. THEORETICAL FRAMEWORK

The theoretical framework guiding this research is the *Constructivist Theory*. Constructivist theory is a theory of knowledge that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas (Slavin, 2000). The theory of constructivism is generally attributed to Jean Piaget, alongside Vygotsky as the founders of constructivist learning (Wretch, 1997). Apart from Piaget and Vygotsky, other theorists who have contributed to the development of constructivist learning include; John Dewey, Jerome Bruner, and Kolb, who are often cited as the founders of “active learning” (Cooperstein & Kocevar-Weidinger, 2004). Constructivism focuses on ways in which persons and societies create, rather than discover constructions of reality (Raskin, 2002).

Proponents of the theory as Brooks and Brooks (1999) put it; argue that distance learning inspires students to be autonomous and creative in order to learn. Constructivist theory is concerned with the social nature of learning. That is, how learners create their own conceptual structure in order to make sense of their social world.

Piaget believed that knowledge is acquired as the result of a life-long constructive process in which we try to organize, structure, and restructure our experiences in light of existing schemes of thought, and thereby gradually modify and expand these schemes (Bodner, 1986). Piaget further argued that the data we perceive from our senses and the cognitive structures or schemes we use to explain these data both exist within the mind. According to von Glasersfeld (1980) schema consists of three parts: a trigger, an action or reaction, and the consequence of this activity; and one example of a scheme is the sucking reflex in a new-born child. The scheme for sucking is activated or triggered by the child's perception of a particular pattern of sensory signals.

Distance learning as a constructivist teaching and learning approach needs to be used in the teaching and learning process nowadays because:

it pays attention to the individual and respect for the students' background; it facilitates group dialogue for the purpose of leading to the creation and shared understanding of a topic; it provides opportunities for the students to determine, challenge or add to existing beliefs and understanding through engagement in tasks that are structured for this purpose and it also helps in the development of students' meta-awareness of their own understanding and learning process.

(Richardson, 2003).

Therefore, constructivist theory best clarifies distance learning as a teaching and learning process that would help learners to be more active in using their existing knowledge to build new knowledge. The instructor's role in constructivism as Peters and Gega (2002) observe is to orient the learner in a general direction and to prevent the learner from going in the direction that would be inappropriate. As a facilitator, an instructor provides the resources for

the learning process, to engage learners actively and to refocus students' activity when appropriate so that they remain productive in the learning process (Peters & Gega, 2002).

The main idea behind constructivist teaching and learning approach is to focus more on the learner and not the instructor. As such, this enables learners to be actively engaged in the learning thereby constructing knowledge on their own. Therefore, distance learning as a constructivist teaching and learning approach allows learning to take place not because as a result of the instructor transferring knowledge from a text or personal knowledge base, but as the students interpret and make sense of their surroundings (Peters & Gega, *ibid*).

For the sake of simplicity and clarity, the diagram below depicts the conceptual framework of the study.

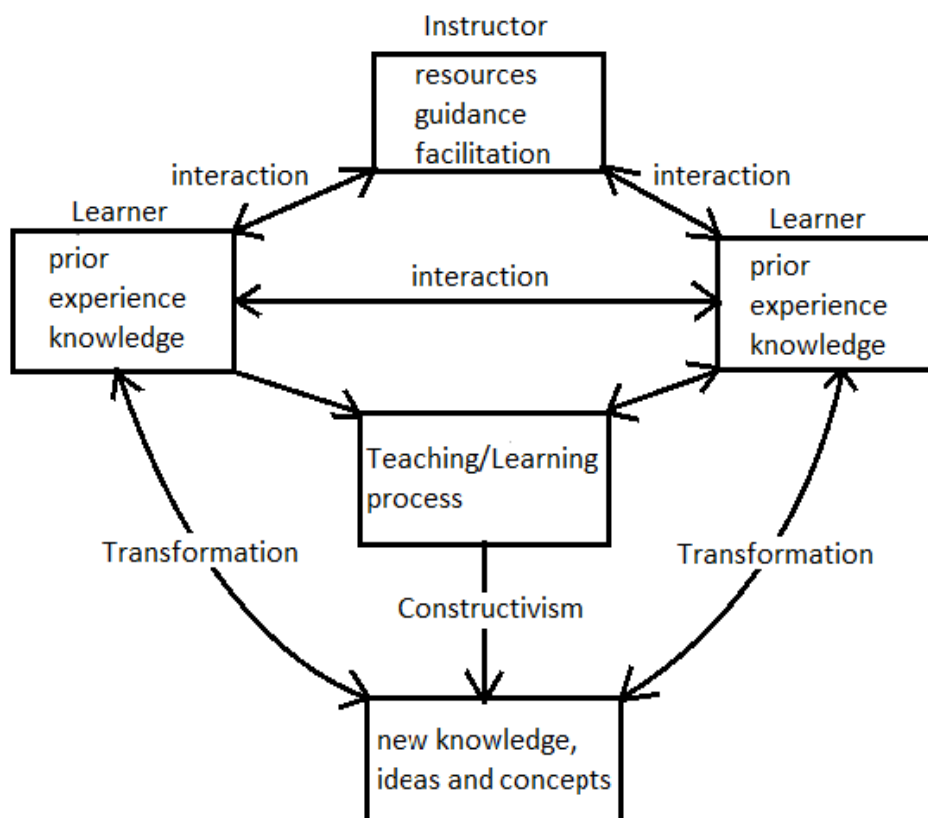


Figure 1: Conceptual Framework

The conceptual framework has been developed from the review of related literature by mainly focusing at the role of the facilitator and the learner in distance learning with reference to the theory of constructivism.

In distance learning, the whole process is learner-centred whereby the learner is actively involved in the learning process in which s/he uses prior experience to construct new ideas and concepts, through interaction with the instructor as well as other fellow learners. Constructivist learning stimulates the development of students' critical thinking skills in that this approach encourages students to actively and rationally think about their and others' existing knowledge during knowledge construction (Haruthaithanasan, 2010). The teacher provides learning resources and guidance in the learning process; as a result the instructor becomes less active, by acting as the facilitator. This learning approach as (Haruthaithanasan, 2010) clarifies, stimulates intrinsic motivation to keep students' learning enjoyable through promoting natural curiosity, personal interest, autonomy, novelty and challenge of tasks.

3.3. RESEARCH DESIGN

The current study is qualitative in nature; as such data was collected mainly through interviews. Being a qualitative research, it falls under the interpretivist paradigm, because, the research involves constructing and interpreting reality. As Ndengu (2012:14) articulates, interpretivism captures the lives of participants in order to understand and interpret the meanings they attach to social issues. Therefore, interpretivist paradigm would enable both the participants and the researcher to understand, explain and demystify social reality (Cohen, et al., 2007).

The basic assumption guiding the interpretivist paradigm as explained by Mertens (2005) is that people active in the research process socially construct knowledge. The current study was fully dependent on the researcher to interpret the meaning of the results; hence, falling under the interpretivist paradigm. A paradigm consists of the following; ontology, epistemology, methodology and the methods which guide the research, and there are three main paradigms namely: 1) positivist, 2) interpretivist and 3) critical theory paradigm (Scotland, 2012; Ndengu, 2012). Scotland (2012) defines ontology as study of being or nature of reality. Epistemology is concerned with the nature and forms of knowledge (Cohen, et al., 2007). Whereas methodology is the strategy or plan of action which lies behind the choice and use of particular methods: and methods are specific techniques and procedures used to collect and analyse data (Crotty, 1998; cited in Scotland, 2012).

This study uses the interpretivist paradigm, because the theoretical underpinnings of qualitative research as Ndengu (2012) argues are those of interpretivist paradigm which focus on the firm belief that there is no objective truth, but what we see as reality is socially constructed. Moreover, researchers in this paradigm seek to understand rather than explain phenomenon (Cohen et al., 2007).

The research is an inductive form of inquiry that explores phenomena in their natural setting to interpret and explain the meaning of the findings and the researcher's perspective has an influence in the findings (Anderson, 1998). The interpretive approach used in this study provided descriptive accounts to understand phenomenon or a particular point of view from the perspective of the teachers who studied through distance learning, concerning distance learning mode of training teachers in Malawi (Ndengu, 2012).

The current research is a case study. A case study is described as a systematic and in-depth study of a single case, which could be an individual person, a group of persons, an

organisation or an institution including schools (Merriam, 1998). Chikuya (2005) mentions a single person or an individual as an example of a single case that a case study could use to provide an in-depth study of a phenomenon. The researcher decided to conduct a case study because of its ability to provide an in-depth study on a phenomenon and an ability to generate detailed information about distance learning mode of training teachers from the perspective of teachers themselves who studied through the same programme. Hence, the experiences of the teachers could best be studied through a case study. Case studies in qualitative research as Ndengu (2012) depicts are unique, in that they are not only for in-depth study, but are meant to be representative of cases, in that a representative sample can lead to generalisation of the findings.

3.4. PARTICIPANTS AND RESEARCH SITE

Basing on the sampling technique, the participants of the study were secondary school teachers who were trained at Domasi College of Education through the distance learning approach. The teacher respondents came from three community day secondary schools (CDSSs) in Mzimba district in the northern education division. Community day secondary schools were previously distance education centres known as Malawi College of Distance Education (MCDE) centres.

The northern education division consists of six education districts namely; Chitipa, Karonga Rumphi, Nkhata Bay, Likoma, and Mzimba. In Mzimba district there are five conventional secondary schools and more than twenty community day secondary schools. It is worth pointing out that the problem of shortage of teaching and learning resources is more serious in CDSSs than in many conventional secondary schools (CSSs). Before the introduction of free primary education (FPE) in 1994, CDSSs were distance education centres (DECs), which

served students that were not selected to CSSs. Such centres neither had adequate resources nor did they have adequate qualified teachers, and mainly served as centres where students would order and receive print-based distance education materials (Gwayi, 2009).

After the introduction of FPE in 1994, all DEC's were converted to public secondary schools to accommodate the unprecedented increased number of primary school graduates who were looking for secondary education. While the conversion of CDSSs was necessary to expand the capacity of secondary education system to many Malawian children, and the process was done without a corresponding increase in the supply of the educational resources necessary to ensure quality of teaching and learning. The problem of quality education in CDSSs is exacerbated by a significantly higher proportion of unqualified and untrained teachers when compared to CSSs (Gwayi, 2009).

The target population consisted of both male and female serving secondary school teachers, and these teachers were located in public secondary schools. The sample consisted of eighteen teachers, who were purposely selected. The size of the sample was chosen basing on the fact that, the aim of qualitative research is not necessarily to generalise results, but to make an in-depth study of a problem as it is in a case study (Ndengu, 2012).

Further, the study also included three head teachers from the selected schools. Fortunately, two out of the three head teachers were trained through distance learning. The inclusion of the head teachers in the study was to understand their views on distance learning mode of training and how they look at teachers trained through this mode in terms of their competency. In order to ensure confidentiality pseudonyms were used for both the schools and names of the respondents.

3.5. SAMPLING TECHNIQUE

Sampling is a very important method used to select a given number of people or things from a population (Mertens, 2005). In this study purposive sampling was used to select secondary school teachers. Purposive sampling was chosen because as Creswell (2003) illustrates, it allows the researcher to select individuals for the study to provide information on an understanding of the research problem in the study.

Furthermore, purposive sampling technique is used in situations where simple random sampling cannot be used and researchers within the interpretive paradigm tend to use a theoretical or purposive approach to sampling; in addition, interpretive paradigm allows researchers to typically select their samples with the goal of identifying information-rich cases, which allow them to study a case in-depth (Mertens, 2005).

Finally, according to Mertens (2005), purposive sampling is common in phenomenological studies where emphasis is on understanding of participants. As such, the researcher selected only those participants who shared the same experiences of distance learning approach, because the researcher wanted to target only teachers who were trained through distance learning mode and not any other teachers.

3.6. DATA COLLECTION

Qualitative researchers prefer to use the term *data generation method* as opposed to data collection, arguing that data generation recognises the active and cooperative role of participants in the research process as opposed to a passive role of information givers (Ndengu, 2012). The current study solely used interviews to collect data.

3.6.1. INTERVIEW

As a research method, an interview is a kind of conversation carried out with the purpose of obtaining certain information by means of the spoken words (Ndengu, 2012). An interview, as described by Ndengu (ibid) allows the researcher collect data through direct verbal interaction with the respondents, whereby the interviewer (researcher) records answers.

Interviews enable both the interviewer and interviewee to discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view (Cohen, Manion & Morrison, 2000). Hence, during the interview data was carefully recorded.

Mertens (2005) clarifies that interviews ought to be used when you want to fully understand someone's impressions or experiences, or learn more about their answers to questionnaires.

Mertens (ibid) further explains that interviews have the following advantages:

- a) they allow getting full range and depth of information
- b) help to develop relationship with the client and
- c) are flexible with the client. However, some of the challenges with the interviews are that, may take much time and at times it can be hard to analyse and compare information.

As such, more time was spared for the interview and data analysis commenced soon after collecting data, to prevent the aforementioned challenges.

3.6.1.1. SEMI-STRUCTURED INTERVIEW

This study used one-to-one semi-structured interviews to generate data. Semi-structured interviews enable the interviewer to use a prepared guide with specific questions organised in

relation to specific objectives of the study, not necessarily in a specified order (Ndengu, 2012; Bailey, 2007). The semi-structured interviews were used because, they allow some flexibility as the interviewer engages in a dialogue with the interviewee, by providing room for the researcher, depending on the response received to either ask further questions to get more details or move on to the next key question (Ndengu, 2012; Burton, et al., 2008). One-to-one semi-structured interview as illustrated by Hanna (2007) in Kalefya (2014) is a very simple, efficient and practical way of getting data about things that could easily be observed; for instance, feelings of participants towards distance learning.

After collecting data, what followed was transcription and coding of data in order to identify patterns or trends so as to put the data into categories, sub-categories and themes.

3.7. DATA ANALYSIS

Data analysis involves taking what you have apart; examining it in detail and putting it back again in a more condensed and meaningful way (Sharp, 2012). In this study as a qualitative research and being interpretive in nature, data analysis as Sharp (2012) puts it, involved the following steps: familiarisation, reduction, synthesis or collation, description and interpretation. Further, data analysis process involved: clear exposition of complex arguments and issues, identifying causal relationships, comparing and contrasting and identifying challenging assumptions (Burton, et al., 2008).

Data analysis started soon after collecting data. This was done by transcribing the recorded interviews to make sense of the data collected in order to identify patterns or trends in relation to a specific phenomenon through coding. Coding involved breaking down and reassembling data collected to identify and allocate it to a system of categories,

sub-categories, and themes (Ndengu, 2012; Burton, et al., 2008). Coding is defined as marking the segments of data with symbols, descriptive words or category names. The process of coding continued until all the data had been transcribed and identified into themes, so as to generate meaning from the data that addressed specific research questions.

3.8. TRUSTWORTHINESS OF THE STUDY

While proponents of positivist paradigm are concerned with issues of validity and reliability, those supporting qualitative research are concerned with trustworthiness as an expression of researcher's rigour (Chiziwa, 2012). According to Creswell (2009) qualitative validity means that the researcher checks for the accuracy of the findings by using certain procedures, while qualitative reliability indicates that the researcher's approach is consistent throughout the research and in different projects.

The current study also considered both internal and external validity. In that, internal validity helped in demonstrating that the findings of the current study could be sustained by the data, as this concerns accuracy (Cohen et al., 2000). As such, internal validity was addressed by obtaining accurate, authentic and credible data. Whereas, for external validity, the researcher made sure that the findings provide a clear, detailed and in-depth description so that others could decide the extent to which the findings of this study could be generalizable to another situation. Because, external validity requires that the results be generalized to the wider population, cases or situations (Cohen et al., 2000).

Reliability on the other hand, refers to the consistency of the findings provided by an instrument and respondents (Cohen et al., 2005). Therefore, the researcher ensured that the findings are reliable, so that if they were to be carried out on a similar group of respondents

in a similar context then similar results should be found. In qualitative research as Agar (1993) cited in Cohen et al. (2000) reports data collection, intensive personal involvement, and in-depth responses of individuals help to secure a sufficient level of validity and reliability. In addition, to ensure validity and reliability, the instruments for collecting data were pretested on a different group of teachers.

Therefore, trustworthiness of the current study is assured by the prolonged engagement which the researcher had with teachers because, as Creswell (2009) argues the more experience a researcher has with the respondents in their actual setting, the more accurate or valid would be the findings. Hence, prolonged engagement with teachers enabled the researcher to establish relationship of trust with the respondents, and this helped to gain greater access to insider knowledge rather than superficial or purposeful information (Stringer, 2004).

3.9. ETHICAL CONSIDERATIONS

Ethical issues that were considered in this study include; getting permission for gaining access to teachers, voluntary participation, informed consent, absence of risk or harm, assurance of confidentiality and anonymity. Ethics have always been recognised as a central part in research. Considering ethical issues is also an important element in research, more especially during data collection.

Burton et al. (2008) expresses that behaving in an ethical manner increases chances of maintaining a positive relationship between the researcher and the participants for the duration of the research. As such, a letter of introduction for the researcher was obtained from Mzuzu University, faculty of education. In addition, permission was obtained from relevant authorities, at the Northern Education Division Office and from the Head teachers of

the schools before conducting the research. Besides, all participants in the study were protected by ensuring them of the confidentiality by using pseudonyms.

3.10. LIMITATIONS

The current study only focussed on few teachers since it is a qualitative case study, which seeks to understand reality from a limited number of participants, as opposed to quantitative study. Secondly, the findings reflect a particular time and context, therefore it would be difficult to generalise the results.

CHAPTER 4: FINDINGS OF THE STUDY

4.1. INTRODUCTION

This chapter presents and discusses the findings of the study. The study aimed at exploring experiences of secondary school teachers on distance learning mode of training teachers in Malawi. Based on the data generated during interviews, a number of categories were generated which were further put into four major themes that explain the experiences of the teachers on distance learning mode of training.

The interview data for this study relates to the interviewees' attitudes, how learners interacted, how learners conducted experiments in the case of science teachers and also challenges faced in the course of their studies. The insights obtained from the analysis constitute part of the findings of this study and they take the form of organized descriptive accounts, themes and categories that cut across the data.

The themes and categories in some cases, as indicated in table 1, are used as headings for the discussion of research evidence under each of their corresponding questions. The five specific research questions were as follows:

1. What is your impression on the distance learning mode of training secondary school teachers?
2. How do you understand distance learning as a constructivist approach in relation to interaction and learner autonomy?
3. What are the challenges and opportunities in training teachers through distance learning?
4. How would you compare yourself with those trained through conventional mode?

5. What could be needed for effective training of teachers through distance learning in the future?

4.2. THEMES AND CATEGORIES

According to Braun and Clarke (2006:79) thematic analysis is a method for “identifying, analysing and reporting patterns (themes) within the data”. The emergence of the themes during the analysis was crucial for the researcher because themes which emerged were validated through their repeated occurrence in the interview data.

A theme expresses something important regarding the data which relates to the research question, and makes up some level of patterned response or meaning within the data set (Braun & Clarke, 2006). When doing the analysis as Othman (2012) articulates the researcher had to bear in mind that finding more instances of a theme does not necessarily mean that a particular theme would eventually be important for the analysis. Braun and Clarke (2006) caution that in qualitative analysis, there is no “hard-and-fast answer” to the question of what ratio of a data set is needed to display evidence of the theme in order for it to be considered a theme.

In other words, the researcher’s judgement is very important in determining what constitutes a theme. In determining the themes for this study the researcher tried to find links between the ‘central nature’ of a potential theme and one or more of the research questions (Othman, 2012). Thematic analysis is very flexible as it permits the researcher to determine themes in a number of ways, and what is important when determining the themes is to be consistent (Braun and Clarke 2006). Twenty six codes were generated from the data gathered, and the codes were further reduced into sixteen, grouped into twelve categories and four major themes.

TABLE 1: SHOWING TWENTY SIX CODES

CODES	
Feeling	Quality
Opportunity	Conflict
Upgrading	Activity
Demand	Technology
Discuss	Centre
Support	Independent
Distance	Assess
Material	Knowledge gap
Consult	Content
Manage	Rote learning
Afford	Fees
Training	Challenges
Face-to-face	Supervision

The themes that are discussed are: perception towards distance learning, characteristics of constructivism, challenges of distance learning and improvements on distance learning mode.

TABLE 2: SHOWING THEMES, CATEGORIES AND CODES.

THEME	CATEGORY	CODE
Perception of distance learning	Provides opportunity Comparison with conventional	Opportunity Fees Quality Content Rote learning
Interaction between students and lecturers	Group discussions Challenges during interaction	Discuss Circles Challenges
Challenges affecting distance learning	Role conflict Lack of materials Distance to college and study circles Period for face-to-face	Conflict Materials Distance Knowledge gap
Suggestions to improve distance learning	Establishing resource centres Hands-on activities Enhancing field supervision Orientation of lecturers/students	Centres Activity Supervision Orientation

The findings of this study indicate a selection of the most relevant sections of the responses, as quotes and/or summaries of the participants' responses paraphrased by the researcher.

The responses were organised and coded within each of the four themes closely related to the research questions of the current study. Due to the volume of the responses, it was not possible for all the responses to be documented; only some of the responses have been used.

4.3. DEMOGRAPHIC INFORMATION

There were more male than female participants in the study; that is, twelve male and six female. The respondents were teachers of three community day secondary schools in Mzimba district, in Northern Malawi. All the respondents except one were Diploma graduates of Domasi College of Education who had been trained through distance learning mode. The teachers majored in two subjects that they are currently teaching. These subjects range from Agriculture, Biology, Physical Science, Mathematics, English, Geography, History, Bible Knowledge, Home Economics to Chichewa. Seventeen participants did their training through distance learning including the two Head teachers. The third Head teacher did his training through the conventional mode at the University of Malawi.

All the participants had almost the same educational background, i.e. being serving primary school teachers who obtained their primary teacher certificate from a conventional college. It is from this view that the researcher wanted to find out how the teachers perceived distance learning that they under went to obtain a Diploma in education.

In the current study pseudonyms have been used for the names of both the schools and the teacher participants in place of real names for ethical and confidentiality purposes.

TABLE 3: SHOWING CHARACTERISTICS OF PARTICIPANTS

NAME OF SCHOOL	NAME OF RESPONDENT	SEX	SUBJECT TEACHING
Luso CDSS	Nellie	F	Chichewa and English
	Wiza	M	Bible knowledge and History
	Tuse	F	Geography and History
	Songo	M	Bible Knowledge and Geography
	Kapele	M	Mathematics & Physical Science
	Shola	M	Mathematics & Physical Science
	HEAD1	M	Mathematics & Physical Science
Zolowe CDSS	Tete	M	Mathematics and Physical Science
	Nancy	F	Chichewa and English
	Hona	M	Agriculture and Mathematics
	Walasa	M	Bible Knowledge and Geography
	Patson	M	Biology and Mathematics
	Njatto	F	Biology and Mathematics
	HEAD2	F	Home Economics and English
Chipasi CDSS	Tumpe	F	Geography and History
	Lottie	M	Geography and Mathematics
	Victor	M	Biology and Mathematics
	HEAD3	M	Biology and Mathematics

4.4. THEME 1: PERCEPTIONS OF DISTANCE LEARNING

This theme examines teachers' views concerning distance learning as a mode of training secondary school teachers. Two categories were determined in this theme and the categories are: provides opportunity and comparison with conventional mode.

4.4.1. CATEGORY 1: PROVIDES OPPORTUNITY

When the researcher asked teachers their views towards distance learning as a mode of training teachers, the findings show that the majority of the teachers expressed positive attitude towards distance learning, though two teachers had different views while the other two said were not sure whether distance learning was a good mode or not of training teachers. That is, fourteen out of eighteen teachers expressed that distance learning is a good mode of training teachers because of a number of reasons. Here is what some of the participants said;

Distance learning is a very good mode of training teachers, because it allows serving teachers to upgrade their qualifications while working. So it provides an opportunity to teachers to go further with their studies while working at the same time [Wiza].

..... njiwemi, kayikativwira. Tikuvwirika chifukwa tikusambira uko tikugwiraso ntchito (It is good, it assisted us. It helps because, you study while working at the same time) [Nancy].

The statements above show that distance learning has the potential to provide higher education to an individual while working at the same time (Pityana, 2004).

In addition, another respondent said;

I recommend government for opening distance learning. As you can see not all people can make it to unima [university of Malawi] doing that normal programme, and not many people can find that chance to go to conventional or traditional education because it is very difficult [Kapele].

Furthermore, Kapele stated that;

There is a very high demand for science teachers because many teachers go for humanities or languages. Distance learning helps to contribute towards the training of science teachers who are in great need [Kapele].

Similarly HEAD2 explained that;

Distance learning is really good because as one of the beneficiaries, I was able to go to school while working at the same time. Teachers are able to have a chance of learning further because of distance learning. I benefited a lot because of distance learning, am here because of it., I support distance learning so much because it has assisted me so much as one of the first cohort that started around 2002 or so

Many of those who studied at that time support it a lot. In fact, distance learning has assisted contributing towards training more teachers which is not possible with conventional mode; there is a great need to train more teachers.

..... even now with this shortage of teachers in Malawi, if government could encourage this distance learning, it could be of great importance.

In addition, Nellie and Tete said that;

It is a good method of training secondary school teachers because it provides an opportunity to teachers to continue with their studies while working. This is so because teachers are able to learn and work at the same time, since it is not offered full time [Nellie].

It is good because firstly, there is a shortage of science teachers in Malawi; as such it helps to assist for the short fall of science teachers Through distance learning a lot more teachers are trained because there is a shortage of about eight thousand science teachers in Malawi. I can say it is good because distance learning caters for the short fall of science teachers [Tete].

Finally, one of the head teachers expressed that;

Distance learning is a good way of improving teachers both at primary and secondary schools. Because many teachers lack qualifications, as a result it helps them to improve their qualifications, in so doing it increases intake of teacher trainers. There by giving a chance to teachers to upgrade. This helps them to have better teaching methods and have more knowledge [HEAD3].

From the statements above, it can be concluded therefore that, distance learning provides an opportunity to teachers who would like to continue with education, thereby upgrading their qualifications and gain new knowledge and skills.

4.4.2. CATEGORY 2: COMPARISON WITH CONVENTIONAL LEARNING

Other teachers were also in favour of distance learning mode of training teachers. They felt that distance learning does not only allow teachers to study while working, but it is also affordable and manageable in terms of fees compared with conventional mode, and this was what one respondent said;

Fees per year was K1500, nkhanira ya waka (almost free). It was called registration fee [Nancy]

In support of this another respondent also recalled that;

In terms of fees that time it was done free. It was fully funded. As long as somebody qualified he or she could go for distance learning, as you can see fees is a barrier to most of the people that aspire to upgrade themselves. As such, many science teachers have been trained throughout the country [through distance learning] [Kapele].

When asked to compare between distance learning and face-to-face (conventional) mode of training teachers regarding the quality of teachers, most respondents stated that;

The quality of teachers trained through distance learning mode is not affected. Those trained through face-to-face and those of distance learning are just the same, because what “we were learning” was not different from what the generic [face to face] group learnt. “We both used the same course syllabus” [Songo].

In agreement the other respondent expressed that;

I am not sure if teachers who are trained through distance learning mode are different from those trained through conventional mode, because what distance learning students learn is not different from what the conventional students learn. Again the grading system is the same, and it is the same lecturers who teach both the face-to-face and conventional modes [Wiza].

In support, HEAD2 further added that;

....., everything even the knowledge is the same, and sometimes we even say that a distant learner is a hard worker than those people who are in college [HEAD2].

Furthermore, on the issue of study materials, HEAD2 stated that;

We had modules which we were using The people from this university [Mzuzu University] took our modules, were borrowing. When we asked them, they were saying we are learning the same thing. We said well. So for me I see that there is no difference. The only difference is the mode of learning, that's all.

Paliye mphambano, chifukwa banyake nase tikuchita makora kulusya ibo. Kuzizwa kuti aba (There is no difference because, some of them [those trained through conventional] we even do better than them and we even wonder) [Nancy].

Although the majority of the respondents expressed that they do not see any difference between teachers trained through distance learning and those of face-to-face, few of them said that there is a difference.

The difference is indeed there, because, those who are full time are trained in a different way. With us mostly we are not really trained fully and maybe we studied for the sake of trying to pass [Hona].

When the respondent was asked to elaborate more on how the two groups of teachers differ in terms of delivery, without clarifying further he said;

The difference of course is very little, very minimal [Hona].

According to HEAD3;

Teachers cannot be the same. The full time cannot be the same as those of distance learning. Because those who study through face-to-face learn a lot of content than distance learners, because they interact a lot at college with fellow students, the materials thus books. While with distance learning students lack materials hence, less coverage of content. That is why those of face-to-face are better than those of distance.

However, HEAD3 noted that;

..... in terms of delivery, there is no any difference. Both are the same.

On a different note, other respondents noted that distance learning is good than conventional mode. According to Kapele, distance learning;

..... is good in that it does not leave the school vacant of teachers because it is done during the holidays, meaning to say that during the holidays teachers [used to] go for normal learning and when they come back schools are already open and they just go into the system, you don't see any difference that teachers are missing

However, few respondents believe that distance learning is not a good way of training teachers, more especially science teachers. One respondent stated that;

..... I feel distance learning is not good for training science teachers, but it is okay for other subjects rather than sciences [Shola].

Another respondent agreed with the above statement without giving a reason when he said;

Distance learning is not a good mode of training science teachers in Malawi. [but] it is suitable to other subjects rather than sciences [Lottie].

HEAD1 added that;

..... whether the programme especially to science, if we compare with those who are full time in school am not very sure that the training that teachers are trained through in terms of delivery, materials itself I don't think it is the same. In one way it is good but in the other way it is not good. I think there could be a gap between generic and ODL teachers [HEAD1].

One of the respondents thought that, distance learning is not a good mode of training teachers as compared to conventional mode because it encourages rote learning. This is evidenced from what the respondent uttered;

Distance learning encourages rote learning. Because if you ask some people difficult questions to assist you, you could not even understand how you got it. This is so because when I was in year two, the year ones were asking us, how do you solve this question? We were saying gentlemen here it is just copying and passing, passing and forgetting. Its true rote learning, you could not understand what was going on. Although I managed to get a credit I didn't even understand the things. It was like manner from heaven [Tete].

From the above findings most participants supported distance learning to be a good mode of training teachers because it provides opportunity for them to upgrade their qualifications and knowledge. In addition, teachers observed that they see no any big difference between teachers trained through distance learning mode and those of face-to-face mode. Indeed distance learning provides an opportunity for serving teachers to upgrade their qualifications while working, because all teachers that were interviewed were teaching at primary school when they were studying at Domasi College, and now they are teaching at secondary school after obtaining a Diploma in Education in various subjects.

Studies have determined that students taking distance learning courses perform the same as students taking courses via traditional methods (Gagne and Shepherd, 2001). Furthermore Ojo and Olakulahin (2006) articulate that empirical evidence, show that there is no significant difference between learning outcomes that can be attained at traditional institutions versus distance learning.

4.5. THEME 2: INTERACTION BETWEEN STUDENTS AND LECTURERS

Interaction is very important in education. Moore (1989) notes that without interaction, there could be no education, because the educational process entails the learner's intellectual interaction with fellow students or/and lecturers which results in changes in the learner's understanding, the learner's perspective, or the cognitive structure of the mind.

4.5.1. CATEGORY 1: GROUP DISCUSSIONS

In the current study, it has been established that teachers had different experiences of interaction with fellow students and lecturers. For instance one respondent recalled that;

We interacted a lot with lecturers while at college as well as at home [work place]. At home we were able to communicate with lecturers through phones and e-mails, because they provided us with phone numbers and e-mails for consultations. That is why am saying there was no problem to interact with lecturers both at home and college [Victor].

Another respondent added that;

There was good interaction between lecturers and my fellow students during briefing sessions at college. we were able to meet and discuss areas that we felt were difficult. And again we could easily ask lecturers for clarification [Nellie].

Team work, or group work and collaborative learning are essential to ODL approach. It involves learners working together in groups to complete academic assignments. This form of learner-learner interaction is intended to promote understanding of the course content and stimulates critical thinking and was found to be an important component of interaction for the respondents.

The group discussions were based on subject combinations. Below is what respondents outlined concerning group discussions that were done depending on their subject combinations;

..... we used to meet at the study circles where we were discussing on assignments that we had been given, as well as discuss any problems that we faced in the course of our studies [Wiza].

We could meet as a cluster once every Friday. Cluster days were made so that our challenges were shared and other dates were set for further discussions [Shola].

Tikakumanangaso ku Katoto ku ma study circles. Kukaba ma study circle nama cluster meeting. Tikakumananga ba Ekwendeni na ise ba Mzuzu. Yatekha tekha iyi ikaba every Friday, kweni cluster yikaba monthly (We met at Katoto for study circles. We used to have study circles and cluster meetings. We met with those from Ekwendeni every Friday, while for cluster it was once in a month) [Nancy].

Another respondent also seconded saying;

We had special days when we used to meet like Fridays, thus when we used to have study circles. There we had to meet those who were taking the same course, and we could discuss the problems [Hona].

However, Hona explained further that;

It was difficult to interact with lecturers because most of the times we were referred to the field supervisors and as colleagues we could consult each other, in areas we had problems. But if the problem was too big for us we could refer it to the supervisor who communicated to the lecturer for us [Hona].

The interaction that transpired between learners and lecturers was intended to help strengthen the learner's understanding of the material from the course content. Therefore, increasing

learning interaction between “student-content-lecturer” with sufficient skills in technology would enhance the learning and teaching process (Dzakiria, 2012).

4.5.2. CATEGORY 2: CHALLENGES WITH INTERACTION

Even though students interacted easily with fellow students and lecturers at college, the situation was different at home (work place). Interaction was not easy at home, and some of the reasons include;

Lack of airtime to call lecturers and lack of knowledge on computers to send e-mails to lecturers [Nellie].

If one wanted to be clarified on the assignment given, we spent a lot of money phoning them [lecturers]. Much had to be spent in order to get cleared especially on the assignments, and sometimes the response could not come in time as expected [Shola].

Students who lived in remote areas could not manage to buy airtime to communicate with lecturers due to economic hardships and network problems [Tumpe].

Tumpe further stated that;

We lived very far from each other hence time for interaction was not available. For instance, there was only one student the whole of Chitipa [my] district.

On a similar note, respondents observed that interaction with fellow students encountered some challenges, especially when students were at their respective homes/work places.

There was always good interaction with fellow students and lecturers at college. But at home it was different in that it was difficult to interact with

lecturers, because of lack of communication facilities like e-mails, due to lack of access to computers. Interaction with fellow students was not easy as well because of the same lack of facilities and if any they were expensive [Walasa].

Patson added that;

At home it was difficult to interact with lecturers because some of the students came from very far areas where communication is difficult. It was also difficult to interact with fellow students at home because of subject combination [Patson].

Njatto agreed with Patson by saying that;

..... it was difficult to interact with fellow students at home because some [students] stayed very far [Njatto].

..... interaction with fellow students was difficult at home, because of long distance places of residents. Some fellow students lived in different districts and regions which made interaction difficult [Victor].

Furthermore, Nellie noted that;

Some students could not go to study circles where we discussed and shared information [Nellie].

Another experience that one of the respondents experienced was that;

Some of our friends were not willing to share information during discussions [Shola].

In support of this, Tete who studied Mathematics and Physical Science also commented that;

Interaction at home was a problem because some science teachers were leaving in far places, as a result it could happen that you are alone in the

whole cluster. This meant that one had to travel a long distance to meet and discuss with friends from other far clusters [Tete].

From the responses above it can be concluded that lecturers and students participating in distance learning courses need to be reminded on how best they could interact with each other by coming up with ways that could help to overcome the communication gaps between facilitators and learners especially when students are at home. Anderson (2003) cited in Muirhead (2004) argues that in constructivist based learning, educators stress the value of learners interacting with other students by utilizing small group instructional activities that can enhance their skills in knowledge building and social cognition.

Interactive activities and services in education intended to support and facilitate the learning process play a crucial role in distance education. In the context of distance learning, learner support has taken on special importance because of the separation between the learner and the educational provider; for instance, the student support system of the Open University in Great Britain (OUUK), which was founded in 1969, serves as a model for many distance education institutions (Brindley, Walti, & Zawacki-Richter, 2004).

Moore (1989) clarifies that when positive interaction between the distance-learner and his or her teacher occurs, the learner comes under the influence of the instructor; and this enables the student to draw on the experience of the instructor, which then permits the student to interact with the content in the manner which is most effective, taking into account his own personal needs and style.

4.6. THEME 3: CHALLENGES AFFECTING DISTANCE LEARNING

4.6.1. CATEGORY 1: ROLE CONFLICT

When the researcher asked the participants on the challenges they encountered during their studies, most of them responded that the biggest problem was role conflict, seconded by lack of materials, thirdly distance and lastly period for face-to-face sessions. On role conflict one participant had this say;

Studying at home [distance learning] is difficult unlike when one is at school. This is so due to multiple roles that we have had. For instance, at school we are teachers, when we go home we are parents as well as students. As a result division of time becomes a challenge that is why it was difficult to study at home [Nellie].

This was supported by Hona who stated that it is difficult to study at home because;

..... at home you could be a parent, a church member, a teacher, at the same time this and that, but you have to commit yourself [Hona].

Head2 also concurred with Nellie and Hona by saying;

Challenges were there, in my case I was studying whilst a mother. As a mother you are supposed to keep your family, you are supposed to teach. If there are funerals you are supposed to attend because you know that you are coming from neighbourhood, at the same time you are also supposed to study, church is also there. And look at the preparation work that you are supposed to do. If you are teaching, assignments are also there [HEAD2].

Similarly, Kapele narrated that role conflict was indeed a big challenge, because;

..... one could act as a parent, a teacher, a student, etc. Balancing all these at once was a very big challenge. There was a lot of work to be done

while doing the training. As such, you needed to prepare adequately in all areas [as] a teacher, a student and at the same time they give you a master on duty. It was really hectic because we were also given assignments to write, so we always worked under pressure. And in the village set-up they could also need your services [Kapele].

4.6.2. CATEGORY 2: LACK OF MATERIALS

The participants also asserted that lack of materials was another challenge that distance learners faced. On his part Kapele narrated that;

It could be a challenge for distance learners to have adequate knowledge due to lack of resources [materials] like books, as compared to conventional students. Conventional students could have a lot of knowledge but maybe the impartation to learners could be a challenge [Kapele].

Teachers who studied science subjects felt that;

Studying topics involving experiments [activities] was not easy at home because of lack of equipment for conducting such activities [Shola].

Likewise, Tete revealed that;

In fact, experiments were not done! experiments were done once, that is one experiment per week. There was no time for experiments, sometimes even not doing them. No any experiment at home, you just read topics to do with experiments.

On the other hand, Kapele who studied sciences like Shola and Tete had a different experience. He stated that at home;

We could do experiments depending on the availability of apparatus. They [lecturers] emphasised on doing experiments, because they could say that

you cannot do [study] science without practicals. They emphasised on using locally available materials, and they could say that if you don't have materials at your school go to the nearby school [Kapele].

Although, only one respondent stated that they were able to conduct experiments when they were at college during face-to-face sessions; but they were rarely done. In fact, experiments are a necessity in the training of science teachers. As such, students need be given materials that would allow them construct knowledge through conduction of experiments.

4.6.3. CATEGORY 3: DISTANCE TO COLLEGE AND STUDY CIRCLES

Apart from role conflict and lack of materials, respondents noted that during their studies they also had challenges concerning distance. That is, they faced difficulties with distance to and from study circles and to Domasi College for group discussions and face-to-face sessions respectively. This is what the respondents experienced;

Distance was a problem because some teachers (students) were leaving in far places in different districts. This meant that teachers had to travel long distances in order to meet and discuss things pertaining to their subject(s). Because it could happen that you are alone in the whole cluster, therefore you needed to travel and meet friends from other far clusters [Tete].

In my case, we were only two in our study circle in the whole district. So it was a challenge to meet our colleagues from other districts [Kapele].

Some of the respondents expressed that due to distance it was difficult for some teachers to move to and from the study circles because they stayed in far areas. As a result at times they could not go for discussions and this affected the number of members present, and sometimes the discussions could not take place.

According to one of the respondents;

Sometimes at study circles you could find that you are alone, there again it was a problem. If you know in advance that you are going to be alone you could not go there [Tete, said].

Other than distance to study circles other respondents were concerned with the distance they travelled to the Domasi College in order to attend face-to-face sessions and to write end of semester/year examinations.

..... distance was a challenge in terms of travelling all the way to Zomba [Domasi College]. Imagine travelling all the way from Chitipa [district] to Zomba, leaving your family behind, staying two or so months there [Kapele, said].

Distance seemed to have affected most of the teachers when they were going for discussions at study circles and also when they were going to the college for face-to-face sessions and writing examinations.

4.6.4. CATEGORY 4: PERIOD FOR FACE-TO-FACE SESSIONS

Many respondents mentioned that period for face-to-face sessions was not enough for learning when they were at college, because they were failing to learn at a normal pace, such that students could cover a lot of work within a short period. This is what some of the respondents said;

I think orientation (face-to-face) period was short because we could learn more work in a short period [Njatto].

Time for learning at college was not enough, because we learnt a lot of work under pressure [Walasa].

We could cover a module within two or three days. Imagine Mathematics two or three days a week, they say, please gentlemen this is the end of the module [Tete].

Some of the respondents proposed for an extension on the period for face-to-face sessions.

According to HEAD3;

..... so instead of just eight weeks, if they can have ten weeks in class can be of greater assistance [HEAD3].

If they could make it a little longer, so that the module or the work we do at college could be handled much better than it is done at the moment. instead of those eight weeks, maybe if they could extend to twelve weeks or fourteen, so that the work should be covered in details. Because we were even doing some courses, that we were never taught but we were just told to read just because of time. So if they could extend time for residential it could be better [Hona].

From the above findings it has been noted that there is lack of knowledge on the part of the students and even some lecturers in understanding how distance learning is done. Most of the participants expressed that period for face-to-face sessions was not enough, and that it should be extended. This is where the problem is; in understanding how distance learning is done as opposed to face-to-face learning. In distance learning the instructor's role is not only to provide materials for learning, he/she has to help learners develop the skills and mind-sets that should lead to successful self-guided study.

The majority of learners and some lecturers do not understand the principle of distance learning in that they relate it to face-to-face mode, in which there is full time teaching (lecturing). In contrast to conventional learning, distance learning is based on the ideology of constructivism which emphasizes the important role of the learner in the learning process. To achieve effective learning, distance learners have to take control of what they learn and

how they learn; so that the lecturer should be the facilitator unlike in face-to-face mode. In distance learning, the learner has to take full control of the learning process, as it is with constructivist theory; which argues that other than being a passive receiver of knowledge, the learner needs to be active in creating their own knowledge and taking control of their own learning process. According to Gakuu (2005);

For an instructor to be effective in delivering instruction by DE there is a need to appreciate that pedagogical and andragogical approaches in the current and perhaps foreseeable future, requires a change of design, delivery, and teaching styles in order to meet the needs of the changing profile of the student. In a learner-centred approach, the instructor becomes the coach while the learner is an active participant. It is then clear that both the instructor and the learner face a challenge and opportunity, which again requires the acquisition of new skills, training and development.

Therefore, when learners are more familiar with the learning process in distance education, they will understand that they need to focus on; depending on their own individual needs and to choose the ways they prefer to learn in order to bring out the best results of their learning.

4.7. THEME 4: SUGGESTED WAYS OF IMPROVING DISTANCE LEARNING

This theme is divided into four categories representing views from the respondents as suggested ways that may help to improve distance learning mode of training secondary school teachers in Malawi.

4.7.1. CATEGORY 1: ESTABLISHING RESOURCE CENTRES

When asked on ways that may help improve distance learning mode of training teachers, many of the respondents said that;

They [college] should introduce study centres in different areas where students would be able to access information without difficulties [Tuse].

Another respondent thought;

Library centres should be provided with adequate books [Shola].

As already alluded to, many respondents were of the view that the college should introduce study (resource) centres, where learners could go to source information pertaining to their studies. Some respondents even further suggested that the study centres should be opened in each district to cater for all students that are studying through distance learning.

..... the college should establish resource centres in at least each and every district where learners reside [Victor].

Indeed establishing resource centres is a good suggestion because they could help students to have access to study materials which are said to be scarce. This is so because most of the students reside far from the college as a result, they have difficulties in finding extra materials for their studies, when they are at their respective homes.

Other respondents further added that the study centres should have internet facilities, so that students should be able to search for information for the assignments given and other needy areas.

..... provision of satellite centres where students could access internet [Wiza].

I think the college should incorporate e-learning so that students can access additional information to supplement what they are given by lecturers [Nellie].

Bates (1995) believes that technology provides greater learning effectiveness if well implemented because it is more learner-centred and produces better quality interaction between the learner and the information, as well as between the learner and other learners. Othman (2012) argues that in distance learning people in different geographical locations, either in rural or urban areas should be provided with the same opportunities provided that there is availability of telecommunication facilities. Therefore, with e-learning Gallogly (2005) believes that it is possible for students living in remote areas to attend accredited college programs.

4.7.2. CATEGORY 2: HANDS-ON ACTIVITIES

On the issue of practical activities, when asked for their suggestions respondents stressed that;

More practicals need to be done while at school [college] [Tete].

..... involve practical lessons [Patson].

From the above statements it can be concluded that practical activities are necessary especially in science subjects. Therefore, as Kimani (2012) advises lecturers as facilitators should be able to design teaching and learning activities and provide materials that would make learners construct knowledge on their own, because in constructivism the teaching and learning process should always be learner-centred.

4.7.3. CATEGORY 3: ENHANCING FIELD SUPERVISION

Teachers also suggested that field supervision is very important for the success of distance learning. A number of respondents supported the idea of promoting field supervision as indicated below;

There should be constant supervision by field supervisors to give guidance and support to students [Nellie].

Lecturers should make follow-ups and see how we are handling the course here, so that wherever there are problems they should come in, because there most of it is lecturing [Hona].

It is not only teachers that put across the suggestion of frequent field supervision, head teachers too had the same idea as shown by the statements uttered by all the three head teachers;

..... this programme, I am not exposed to what they do and the supervision in the field. I think that's where I can suggest. These people go there they learn intensively, but are they monitored out there [here]. If it's done that's okay, but if not, that's where the weakness is [HEAD1].

The college should have field supervisors who must be guiding students [teachers] time to time [HEAD3].

..... yes, they should improve on the supervision in the field [HEAD2].

From the statements made by both teachers and heads, it is quite clear that frequent field supervision could assist in the effective training of teachers through distance learning, because ODL students spent most of the time at their homes. Therefore, visiting students frequently in the field would often help them where they might face problems, as they are

going through the training rather than waiting for face-to-face sessions which happen once in a while. Indeed, field supervision is very important in that;

A teacher [ODL student] might require some specialised pedagogical knowledge that would guide him to identify any possible learning barriers that a child might be facing and to consider ways of helping that child.

(Kimani, 2012:66).

4.7.4. CATEGORY 4: ORIENTATION OF LECTURERS/STUDENTS

Apart from establishing study centres, a greater number of respondents suggested that there should be orientation of lecturers on how to handle distance learning programmes. This is so because respondents felt that many lectures do not really understand how distance learning operates, as most of them are used to face-to-face learning mode. As a result the same skills that they apply when dealing with conventional students are also applied to distance students, which should not be the case. Because, the role of the lecturer in distance learning is to act as a facilitator and the student is the one who controls the learning process as opposed to actual lecturing that occurs in conventional mode. This is what respondents suggested;

There should be an orientation of some lecturers who do not know how ODL is ran [Songo].

Orienting lecturers on how they can facilitate or train students through distance learning could help, because lecturers don't know what is involved in distance learning [Tuse].

Based on the responses above even though, many respondents suggested that there should be orientation of lecturers on how distance learning should be conducted. This also applies to the learners; as demonstrated by what respondents said on how distance learning could be improved. For instance, one respondent stated that;

More time should be given in order to cover a module well at college. Modules are okay, but the only challenge was the way how it (module) was covered [Tete].

The above statement represents what almost all the respondents said. The statement shows that students too also need orientation on how distance learning is done as a constructivist learning approach. In Distance learning as Dzakiria (2012) elaborates many learners for the first time, are faced with a new learning environment and the expectation that they would have independent learning skills and the capacity to engage in activities that require self-direction and self-management of learning.

Moreover, interaction in the conventional classroom or lecture room is much different than the interaction that occurs in ODL. In that, learning interaction is fundamental to ODL because study completion success is dependent on how effective the students are interacting with the course content, tutors and with their peers in their learning (Dzakiria, 2012).

4.7.5. CATEGORY 5: TO HAVE THEIR OWN LECTURERS

Finally, teachers claimed that distance learning at Domasi College could be improved if the college could have separate lecturers handling distance learning programmes. According to the respondents' suggestions;

..... ODL students should have their own lecturers for easy assistance [Victor].

There is need to have lecturers solely for ODL students, so that concentration and interaction could be improved [Tumpe].

Indeed, it may be good for the distance learning programme to have its own lecturers or as a department on its own, in order to improve the training of teachers. Because, this may assist

lecturers to solely concentrate on distance learning students only, than dealing with both face-to-face as well as distance learning students. On the other hand, this may be costly to hire lecturers solely for distance learning programme, than utilising the already available staff. Moreover, distance learning emphasises much on students to be actively involved in construction of knowledge and that lecturers should play a minor role of guiding learners and assisting them where they may have problems.

Therefore, it may not be reasonable to have separate lecturers for the distance learning programme, because it could be “very teacher-centred” and the learning process could be characterized by dependency on teachers as knowledge providers (Dzakiria, 2012), which is not the principle in constructivist learning.

CHAPTER 5: DISCUSSION OF THE FINDINGS

Chapter four presented the findings of the study; this chapter examines the findings of the study and discusses how the theory of constructivist learning is affected by the findings. The purpose of this study was to explore secondary school teachers' experiences of distance learning mode of training teachers in Malawi. The specific objectives of the study were:

1. To establish teachers' attitudes towards distance learning mode of training.
2. To determine how teachers used distance learning as a constructivist learning approach.
3. To determine the quality of teachers trained through distance learning.
4. To identify challenges and opportunities in training teachers through distance learning.
5. To suggest ways of effective training of teachers through distance learning?

The chapter also includes a brief review of the theoretical framework used in the study. Additional discussions on the implications for educational practice, recommendations, suggestions for future research and limitations of the study are presented in the next chapter.

5.1. THEORETICAL FRAMEWORK

The theoretical framework used in this study is the constructivist learning theory. Constructivism is the learning approach that emphasises more on learners as constructors of their own knowledge, through interaction with others in their community (Januszewski & Molenda, 2008). Constructivist learning is said to be strongly influenced by Vygotsky and Piaget. Vygotsky (1978) suggests that knowledge is first constructed in a social context and is

then appropriated by individuals. According to Cooperstein and Kocevar-Weidinger (2004) social constructivist learning is enhanced by social interaction, therefore constructivism works best in learning, as students have the opportunity to compare and share their ideas with others. In addition, constructivist learning theory places the learner at the centre of the learning circle, not in isolation but as an interactive participant where the instructor acts as a facilitator; and the learner uses prior experiences to generate new ideas (Goodman, 2008).

5.2. PERCEPTIONS OF DISTANCE LEARNING

Research findings have revealed that the majority of teachers had positive attitude towards distance learning. Teachers recommended that distance learning is a good mode of training teachers because it allows teachers to continue with their studies while working, and this gives them a chance to upgrade their qualifications and knowledge. This is consistent with Pityana (2004) that distance learning is a means of providing higher education to individuals who are working. A typical college student may be a single parent working to make ends meet or a mid-life professional looking for a career change. They desire to pursue higher, more advanced education but are unable to meet the time and commitment constraints required by a traditional educational institution. Koohang and Durante (2003:106) believe that:

Adult students were among the first to embrace the asynchronous model for its convenience. Adult students are characteristically independent learners who are self-directed in establishing their learning objectives. They are more likely than other students to be involved in distance education programmes.

Furthermore, Peters (2010) articulates that distance learning provides an opportunity to equality of educational opportunity to people who may not have a chance of accessing higher education for one reason or another. In support of this, Nyandara (2012) highlights that distance learning gives freedom to learn anytime and everywhere, as such it reduces the gap in education by reaching to remote, under-developed and marginalised population. Therefore, as evidenced in the current study;

Distance learning is a very good mode of training teachers, because it allows serving teachers to upgrade their qualifications while working. So it provides an opportunity to teachers to go further with their studies while working at the same time [Teacher].

In agreement Perraton (2010) highlights that open and distance learning has been used to support teachers' career development through structured programmes, designed for specific groups of teachers, and by providing opportunities for individual teachers to raise the level of their own qualifications. Chikuya (2007) concurs with respondents that distance learning is good enough for teacher education as it gives trainees enough time to do their assignments while allowing students to learn as they work.

Much as many teachers support distance learning mode of training, there were few teachers who had reservations with it, in that they felt that distance learning is not good for training science teachers unlike for non-science subjects. According to one of the teachers;

Distance learning is not a good mode of training science teachers in Malawi. but it is suitable to other subjects rather than sciences [Teacher].

The above statement is also supported by critics who argue that qualifications obtained through distance learning are of low quality compared to those obtained through face-to-face

learning mode. For example, Kleinman and Entin (2002) feel that lack of face-to-face interaction between the student and the teacher, or among the students themselves in distance learning, is detrimental to learning. On the contrary, others contend that there is no difference between qualifications obtained through distance learning and those of traditional (face-to-face) education systems.

Even though the learning outcomes in face-to-face education and distance learning courses may be similar, the distance learning mode may not be satisfying to many students because many are used to the face-to-face system. Previous studies have found that there is little difference in the quality of education received through distance learning and conventional classroom settings. Because students taking distance learning courses perform the same as those taking courses via traditional methods (Gagne and Shepherd, 2001; cited in Ojo and Olakulehin, 2012). Sometimes;

Results of distance education students are comparable to and, in some cases, even better than conventional students. There is no pattern of consistently better performance of any of the two groups to justify the superiority of any of the programmes over the other independently of the mode of delivery. (Rumajogee et al., 2003).

Therefore, to prevent doubts that people have on the effectiveness of distance learning, it is advisable that quality concerns should be addressed through the administration of end-of-semester examinations that are proctored in face-to-face settings (Ojo and Olakulehin, 2006). By so doing, stakeholders will have confidence in the effectiveness of the system. Currently, traditional institutions that once questioned the validity of distance learning have recognised the demand for alternative mode of study and have begun to adopt distance delivery methods for some of their courses and programmes (Brindley, 1995). Therefore, as Pityana (2004)

puts it, it is advisable that institutions implementing distance learning systems should make sure that there is stringent scrutiny and regular assessments.

5.3. INTERACTION BETWEEN STUDENTS AND LECTURERS

From the findings of the current study, it has been established that teachers had different experiences of interaction with fellow students and lecturers. Most of the teachers narrated that when they were at college, they were able to interact with fellow students and lecturers without hindrances. Moore (1989) argues that without interaction, there could be no education, because the educational process entails the learner's intellectual interaction with fellow students or/and lecturers resulting into changes in the learner's understanding, the learner's perspective, or the cognitive structure of the mind.

However, when teachers were at their respective homes/work places, the findings show that they had different experiences of interaction with their fellow students and lecturers. Many teachers stated that they could easily interact with fellow students because they used to meet at cluster centres for group discussions where they discussed problems they faced and also to share ideas pertaining to their subjects of study.

We could meet as a cluster once every Friday. Cluster days were made so that our challenges were shared and other dates were set for further discussions [Teacher].

It is indeed necessary for students to interact because, interaction of all types helps to meet general student needs more comprehensively not only in distance learning but in all modes of learning, because as Kartz (2002:4) observes interaction transports students to a new cognitive environment which motivates and activates them.

On the other hand, findings of the present study have shown that a number of teachers faced challenges to interact with fellow students as well as lecturers while at their respective work places because of a number of reasons. Some of the reasons include: distance to study circles, network problems and lack of feedback. Firstly, on distance to study circles, teachers expressed that it was difficult to interact with fellow students because some teachers lived in very far places from study circles, as such, at times they could not go to meet their colleagues for discussions. This is really a challenge with ODL because students are geographically scattered and they come from different educational backgrounds; as such, this poses a challenge when it comes to interaction.

Nihuka and Voogt (2011) stipulate that lack of effective communication and interaction between instructors and learners; and delays in delivering of study materials and assignments are some of the challenges that affect distance learning. Likewise, results of the current study show that;

Students who lived in remote areas could not manage to buy airtime and communicate with lecturers due to economic hardships and network problem [Teacher].

The findings of the present study are congruent with those of Yusuf (2006) who observed that open and distance learning is affected by a number of problems such as:

a) problems of electricity, b) poor telecommunication facilities and lack of access, c), poor postal systems, d) poor information communication technology and e) lack of consistency in programme/policy implementation.

Similarly, teachers who studied at Domasi College through distance learning also had difficulties in interacting with their lecturers in that feedback could not come on time as expected. According to one of the respondents; “..... Much had to be spent in order to get

cleared especially on the assignments, and sometimes the response could not come in time as expected" [Teacher]. Rumajogee et al., (2003) stresses that for distance learning to be successful it depends on good learner support services; effective face-to-face tutorials, timely feedback and accessibility to learning resources through library services.

With regard to the theoretical framework guiding this study, the theory of constructivism, it is important for students to be engaged in interaction in distance learning because learning involves both cognitive and social processes, and under social constructivism students are encouraged to collaborate and engage in active dialogue with their peers to construct knowledge. One of the characteristics with social constructivist learning is that it allows learners to exchange views, discuss problems and take part in educational discourses (Peters, 2010).

Llewellyn (2007) suggests that construction of new knowledge by students in constructivist learning approach occurs when prior student's experience is restructured in the mind of the learner through a process of interacting with the teacher and other students. Furthermore, interaction of students with tutors, as well as with fellow students, during distance learning facilitates more efficient group learning and problem solving, thereby providing an improved learning environment (Kartz, 2002).

Therefore, social interaction influences cognitive development and is important for raising the quality of distance learning programmes (Moore, 1989; Vygotsky, 1978).

5.4. CHALLENGES AFFECTING DISTANCE LEARNING

The findings of this study have revealed a number of challenges that teachers encountered during their training. The common challenges noted include; role conflict, lack of materials,

distance to college and study circles and period for face-to-face sessions. This is in agreement with findings by Brindley (1995) that lack of resources for distance learning institutions that often rely on outmoded information systems, and too few staff with little training and inadequate infrastructure to support operations constrain distance learning.

On role conflict the findings show that almost all respondents stated that they had difficulties to concentrate on their studies because of the different roles they played at home. For instance being a parent, a teacher as well as a student and others. Role conflict occurred because teachers were studying while working at the same time, unlike in face-to-face learning approach, where one is full time at school. According to Knapper (1988) cited in Gallogly (2005) distance learners were more likely to have insecurities about learning, which is often founded in personal and school related issues such as disruption of family life, perceived irrelevance of their studies and lack of support from employers. Banda (n.d.:2) notes that common challenges that distance learning students face in Malawi include:

Domestic workload, lack of sleep, lack of electricity in most homes, the overwhelming number of assignments, unsupportive spouses, communication problems, scarcity of reference materials in the field, feedback from lectures taking long, teaching overloads, attending to babies especially during residential and examination sessions, people's negative attitudes towards women, death of relatives or community members, sickness of children, spouses or relatives, spouses needing attention, friends wanting to chat, time constraints, modules not thoroughly introduced during residential sessions and isolation from fellow learners.

In addition, female learners in particular have family problems that affect their studies. For instance, some female learners drop out of the programme on instructions from spouses who ask the females to choose between marriage and education (Banda, n.d.). These challenges

have resulted in higher dropout rates in distance learning than in traditional/conventional learning approach (Sweet, 1986).

On lack of materials, the current study has found that lack of reference materials and limited technology adversely affected the learning process, more especially to learners residing in rural areas. As a result, teachers had to travel long distances to fetch reference materials. In the same vein, the study has also established that distance to and from study centres also posed a challenge to teachers in that some of them lived in very far places making it difficult to travel to study centres and meet fellow students for discussions.

In addition, teachers faced challenges to communicate with their lecturers and fellow students due to lack of communication facilities, as expressed by one of the respondents;

There was always good interaction with fellow students and lecturers at college. But at home it was different in that it was difficult to interact with lecturers, because of lack of communication facilities like e-mails, due to lack of access to computers. Interaction with fellow students was not easy as well because of the same lack of facilities and if any they were expensive [Teacher].

This finding of the current study coincides with those of Nyandara (2012) who investigated challenges and opportunities of technology based instruction in open and distance learning in Tanzania and China. The researcher found that distance learning was affected by lack of systematic approach to information communication technology (ICT) implementation; access to internet/computer was very expensive in case of connection. Perraton (2010) also concurs with Nyandara (2012) that one of the constraints on the development of open and distance learning in Africa is the need to invest in the development of teaching and learning material, including communication technology.

Perraton (2010:9) believes that computer-based technologies are necessary and need to be developed for the success of distance learning because of the following reasons;

First, they have been used to distribute teaching materials, avoiding mailing costs or the time constraint of broadcasts, through transferring reproduction costs from the teaching institution to the learner. Second, computer-based learning allows simulated two-way communication. Third, where there is internet access, learners can communicate with their tutors or with fellow students taking part in e-learning. Fourth, teachers or trainers with internet access, can download and use open educational resources.

Finally, the present study has also revealed that there is lack of knowledge by both students and lecturers on how distance learning operates. The researcher noted that the majority of student teachers expressed that there was inadequate time for face-to-face sessions, as a result they could not finish covering modules and sometimes they covered the whole module within two days. One of the teachers said, *“Time for learning at college was not enough, because we learnt a lot of work under pressure”* [Teacher]. Another teacher proposed that the college should increase the duration for face-to-face sessions. *“..... so instead of just eight weeks, if they can have ten weeks in class that can be of greater assistance”* [Head teacher].

From the above teachers' responses, it is evident that distance learning students do not understand the idea behind constructivist learning approach. This could be the result of the teacher-centred experiences they underwent during their mainstream education. As a result, they sometimes felt at a loss when communication and interaction with lecturers was “at low level”, and when clear instructions were not given for work, assignments, and experiments (Dzakiria, 2012). This is so, because constructivism puts much emphasis on the learner, such that the whole learning process is learner-centred. The constructivist principle entails learning in one's own ways that match one's individual nature and needs (Haruthaithanasan, 2010).

Further, constructivism promotes independence in terms of individuality as it is with distance learning. As such, learners need to identify their own ways of working on learning tasks by perceiving one's strengths and weaknesses. In fact, constructivist approaches as Ross (2006:103) highlights involve inquiry, investigative work on cumulative problems, and sharing ideas with others. That is why; it is easy to understand why constructivist approaches would indeed promote student engagement in the lesson, thereby helping students generate ideas and knowledge on their own, rather than depending on the lecturer.

On the part of the lecturer, constructivist learning takes them as facilitators; their role is to guide and motivate the learner. Constructivist approaches give attention to both the learner and the lecturer, in that the lecturer's role is to encourage students' independent thinking, creation of problem-centred lessons, and facilitation of shared meanings (Ross, 2006). However, the study findings have revealed that instead of facilitating, most lecturers resort into actual teaching as it is done in face-to-face learning approach. This finding is consistent with Nyandara (2012) who explains that one of the challenges with distance learning is that traditional means of teaching and instruction still dominate, especially in developing countries.

Similarly, Haruthaithanasan (2010) observes that in distance learning lecturers still heavily emphasize drilling and rote memorization rather than the constructivist teaching and learning. Facilitation, is mostly traditional teaching, contrary to constructivist learning where lecturers play a significant role of planning and organising the learning environment and provide experiences to facilitate and guide students (Carin, 1997).

In summary, challenges faced by learners in distance learning contribute towards high drop-out rates. For instance, Rumajogee et al., (2003) noted that in Nigeria between 1997 and 2000 there was a dropout rate of about thirty nine (39 %) per cent. This was due to among

other reasons similar to findings of the current study such as; unaffordability of course materials, time constraints because of competing priorities, late delivery of materials, long distance to travel to study centres, failure to participate in compulsory practicum, lack of learner support, lack of learning resources in study centres, lack of quality tutors, facilitation being assimilated to traditional teaching and also lack of interaction between learners and lecturers.

5.5. SUGGESTED WAYS OF IMPROVING DISTANCE LEARNING

On suggestions to improve distance learning in Malawi, the findings show that most respondents proposed the following: 1) establishment of resource centres, 2) hands-on activities, 3) enhancement of field supervision, and 4) orientation of students/lecturers.

First, on the establishment of resource centres teachers proposed that the college should open resource centres across the country where distance learners could go and have access to reference materials as well as internet/e-learning services, unlike the current situation. Most learners said that they had difficulties in finding study materials as a result they heavily relied on modules that they received at college. With the absence of resource centres learners find it hard to find reference materials for assignments, which is not healthy at higher education level where one is supposed to use a number of references for writing assignments. One respondent said; *“They [college] should introduce study centres in different areas where students would be able to access information without difficulties”* [Teacher]. Another teacher expressed that; *“..... the college should incorporate e-learning so that students can access additional information to supplement what they are given by lecturers”* [Teacher].

Indeed, establishment of resources centres with e-learning services could be of help to learners, because e-learning in distance learning has following advantages:

- Lack of dependence on the time constraints of the lecturer
- Freedom to express thoughts, and ask questions, without limitations
- The e-learning context is conducive to the teacher providing satisfactory responses to his or her students' queries
- The manner in which the content is presented makes it convenient to review lessons previously learned
- The accessibility to, and availability of, the course's subject matter, as well as related materials which the student may explore at his own election, contribute to self-learning and the student's development of independent ideas, and are also useful in allowing the working student to utilize his newly acquired knowledge in parallel to, and in conjunction with, his employment tasks.

(Bouhnik and Marcus, 2006).

The second suggestion put across by teachers is to have more hands-on activities. Teachers who studied science subjects proposed that having more hands-on activities could help students understand science concepts better than just learning theoretically. One teacher said; *"More practicals need to be done while at school (college)"* [Teacher]. In support, Piaget (1973) cited in Ross (2006) explains that science education relies closely on constructivism and its exploratory and inquisitive strategies. Therefore, designing hands-on activities is important in helping students develop problem-solving skills, and this could be done by engaging them in activities that increase students' overall knowledge, understanding, and reasoning abilities.

Thirdly, teachers also proposed that distance learning at Domasi College could be improved by enhancing field supervision, despite having zone supervisors who guide students studying different subjects. Most respondents felt that frequent field supervision by lecturers from Domasi could help to guide teachers where they may go wrong as trainees and also encourage them. One teacher suggested that; *“Lecturers should make follow-ups and see how we are handling the course here, so that wherever there are problems they should come in, because there, most of it is lecturing”* (Teacher).

This suggestion could be linked to what Moore (1980) illustrates, that the physical distance that exists in distance education between the facilitator and the students may result in a psychological and communication gap between them. Such a gap would often impede the ability of the facilitator and his or her students to achieve the desired level of understanding among them. In light of this, teachers and students participating in distance learning would generally require “special” behavioural patterns, which are designed to overcome the communication gap that occurs in distance education (Moore, 1980).

Educational researchers have found that lecturers’ physical proximity, touch, eye contact, facial expressions, and gestures immediacy behaviours can lessen the psychological distance between them and their students, thereby leading to increased learning (Bouhnik, and Marcus, 2006). Hence, increasing field supervision could be an important factor in bridging the gaps between the facilitator and the students, so that a maximum amount of conversation takes place between the two.

Finally the findings of the current study have also revealed that many students were of the idea that the department of distance learning should have its own lecturers, different from those that handle face-to face programmes. This is so because respondents thought that having their own lecturers would allow the lecturers to have more time to concentrate on the

distance learners, unlike when they handle both distance and face-to face students. *“There is need to have lecturers solely for ODL students, so that concentration and interaction could be improved”* [Teacher, said].

Much as this could be true, on the other hand, it may be costly to employ lecturers solely to deal with one programme (distance learning) only, than utilising the already available staff. Moreover, distance learning as a constructivist learning mode is a learning method that emphasises much on students as constructors of knowledge and lecturers just play a minor role of guiding learners. Therefore, it may not be necessary for the ODL programme to have independent lecturers because the learning process could be “teacher-centred” and this could make distance learning rely much on lecturers as knowledge providers (Dzakiria, 2012), which is not the idea behind constructivist learning.

In addition, Bounnik and Marcus (2006) reasons that, the fact that students generally interact with the materials independently in distance learning; it lessens the degree of the lecturers’ control over the learning process. In light of this, the role and expertise of the lecturer in distance learning is to ensure that the learning process is efficient.

From the teachers’ responses it shows that ODL students do not understand how constructivist learning occurs, hence need for exclusive orientation of students during the face-to-face sessions, because most of them are used to traditional means of learning.

5.6. CHAPTER SUMMARY

In summary, the findings of this study have shown that there were slight differences between secondary school teachers on the experiences of the distance learning mode of training teachers in Malawi. Most teachers expressed that distance learning is a good method of training teachers because it provides them an opportunity to continue with their studies while working. In addition, teachers said that they see no difference between distance learning with face-to-face learning approach because they learn the same content.

However, few teachers believe that distance learning promotes rote learning and that there is a big difference between the two modes of training teachers. For instance, distance learners according to the teachers; find problems in interacting with their lecturers while at their work places due to among other reasons; poor communication systems and lack of e-learning facilities.

Further, the results of this study indicate that common problems that teachers faced during their studies include: role conflict, distance to study circles/college and limited time during face-to-face sessions. In addition, most teachers indicated that training of science teachers through distance learning was inadequate due to lack of materials for conducting experiments as a result science teachers were generally theoretically trained.

According to the results, teachers came up with a number of proposals that could help to improve the distance learning mode of training teachers in Malawi. Some of the proposals include: 1) establishment of resource centres which could help students with reference materials; 2) enhancement of field supervision so that students could be guided and advised through interaction with lecturers; and 3) orientation of lecturers on how distance learning operates since most of the lecturers use the traditional mode of teaching.

Generally, distance learning is a good mode of training secondary school teachers, for it gives chance to study while working. It may also help not only teachers but even learners in other disciplines to attend higher education due to a number of reasons. In addition, Malawi cannot run away from implementing distance learning approach due to an ever increasing demand of higher education by students who complete their secondary education but cannot be accommodated in public universities because of limited space. For instance, in the 2014/15 academic year a total of 9,555 candidates applied for generic programmes at Mzuzu University, only 564 candidates were admitted (www.mzuni.ac.org).

Therefore, distance learning could help to increase access to higher education considering a high demand for university education in Malawi. However, according to the findings of this study this mode of learning could be successful if institutions considering implementing such programmes could consider improving modes of interaction with their learners; establishing resource centres; and intensive orientation of both instructors and learners on how distance learning operates as a constructivist learning approach as opposed to face-to-face.

The next chapter presents the conclusions drawn from the study and recommendations made.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1. INTRODUCTION

This study sought to explore secondary school teachers' experiences of distance learning mode of training teachers in Malawi. Teachers selected from three secondary schools in the Northern Education Division were interviewed and all the schools are in the urban set up. This chapter therefore, provides conclusion to the findings of the study. The chapter also provides recommendations of the study and suggestions for further research.

6.2. SUMMARY OF THE FINDINGS

The main research question guiding this study was; what secondary school teachers' experiences of distance learning in Malawi are? This was followed by the following research questions:

1. What are the teachers' attitudes towards distance learning mode of training teachers?
2. How do teachers understand distance learning as a constructivist approach in relation to interaction and learner autonomy?
3. What are the challenges related to the distance learning mode of training teachers?
4. Is there any impact on the quality of teachers trained through distance learning?
5. What could be needed for effective training of teachers through distance learning?

The results of the study have shown that generally teachers have a positive attitude towards distance learning mode of training. This is so because it provides an opportunity to teachers to upgrade, hence have a chance of attending higher education while working. A greater number of teachers expressed that there is no difference between teachers trained through

distance learning and those of face-to-face or conventional mode, because students learn the same content.

In addition, the study has revealed that most teachers stated that there was good interaction between fellow students at their respective homes or work places as they used to meet at study circles. However, few teachers claimed that it was difficult to interact with their fellow students and lecturers while at home because of communication problems and distance to study circles. As a result, some teachers could not go and attend group discussions, due to long distances they had to travel.

There is evidence from the findings that distance learning has a significant influence on the training of teachers in Malawi. More teachers have been trained through this method. However, the results have also shown that teachers faced a number of challenges during their training period and these include; role conflict, lack of materials, distance to college and study circles and also period for face-to-face sessions. According to the findings role conflict was a major challenge because, teachers had multiple roles such as being a parent, a teacher, a student and others just to mention a few. Such roles affected them to concentrate on their studies.

Secondly, the study has also revealed that lack of reference materials was another challenge that teachers encountered. Most teachers expressed that they had difficulties in finding reference materials while at their respective homes/work places. As a result they greatly relied on the modules they received at college. In addition, those who were studying science subjects could hardly conduct experiments because of unavailability of materials.

Apart from role conflict and lack of materials, teachers also mentioned distance to college and study circles as another challenge faced. Distance affected teachers in that some lived in far areas/districts as a result they had to travel long distances to college to attend face-to-face sessions, and this costed them a lot of money. Hence, they were financially affected because they had to live their families behind with insufficient money. On the same note, distance to study circles also affected group discussions, because some teachers could not go for discussions due to distance they had to travel, this eventually disturbed discussions.

Finally, the majority of teachers complained that the period for face-to-face sessions at college was not adequate. They suggested that if the college could extend the period for face-to-face meetings by at least two weeks could be better, so that there is enough time for learning. Although teachers complained of inadequate time for learning during face-to-face sessions, the major problem noted by the researcher was lack of knowledge on how distance learning operates as a constructivist learning mode.

Teachers lack knowledge on distance learning as a constructivist learning approach, in that constructivist learning focuses much on the learner who becomes actively involved in the learning process while a lecturer acts as a facilitator. In other words, the whole learning process is learner-centred. From the findings it could be concluded that teachers do not understand distance learning as a constructivist learning approach as evidenced from the way they complained on insufficient time for face-to-face sessions. In addition, some lecturers too, lack such knowledge. This is so, because some lecturers did not act as facilitators, instead they were typically lecturing rather than facilitating.

This therefore, means both learners and lecturers lack knowledge on distance learning as a constructivist learning approach; hence they need special orientation on how distance learning as a constructivist learning approach works.

In conclusion, distance learning is a good mode of training secondary school teachers in Malawi, because it enables them to continue their education while working. Distance learning also helps in the training of more teachers who are in short supply, besides the conventional approach. However, teachers' experiences have revealed that this approach faces a number of challenges such as lack of materials among others. If the challenges are not taken into consideration, then distance learning graduates would be half baked; hence would be ineffective in carrying out their duties.

6.3. IMPLICATION FOR EDUCATION PRACTICE

The review of related literature and the theory of constructivism provided the theoretical framework for this study. The conclusions and findings of this study based upon the constructivist framework call for integration of a student-centred approach in the training of secondary school teachers through distance learning mode. The study findings discussed earlier have been used to make recommendations that focus on student-centred learning environments and facilitation of distance learning approach as opposed to face-to-face conventional learning approach.

6.4. RECOMMENDATIONS

In view of the challenges and opportunities noted in the study the following are recommendations to improve the training of secondary school teachers through distance learning.

6.4.1. PROMOTING INTERACTION

Although most teachers indicated that there was good interaction between fellow students and lecturers at college during the face-to-face sessions. The situation was different when they were at home, in that they could find problems in interacting with lecturers, because the easiest way was through phone of which most respondents argued it was expensive to talk to lecturers at length. In view of this, there is need to find out how best learners could interact with lecturers at a lower cost.

6.4.2. ESTABLISHMENT OF RESOURCE CENTRES

The findings have shown that learners experienced lack of reference materials while at their respective homes. In addition, they spent a lot of money in travelling to and from the college to attend face-to-face sessions. As a result, there is need to establish resource centres in each education division in the country, where references materials should be put. The resource centres could also act as centres where learners would go during face-to-face sessions and when writing examinations rather than going to the college. This could help in cutting costs on the side of the learners, because they will not be travelling long distances to the college.

6.4.3. PRACTICAL ACTIVITIES

Teachers who studied science subjects indicated that they rarely conducted experiments while at home/work place because of lack of materials. As such, there is need for the college to provide materials for experiments in the proposed resource centres so that learners studying sciences could be able to conduct experiments rather than “*learning theoretically*” as one respondent said, topics that require experiments.

6.4.4. FIELD SUPERVISION

The findings of the study have shown that frequent field supervision could help in guiding and advising students in areas where they might face problems. Therefore, this activity needs to be reinforced so that learners could be supervised regularly in their work places.

6.4.5. LECTURERS AS FACILITATORS

The teacher-centred approach to instruction often encourages students to become passive, and dependent upon teachers as providers of knowledge. On the other hand, student-centred approach engages learners to be active in generating knowledge on their own. As such, student-centred approach should be employed in distance learning by orienting lecturers on the roles of a facilitator. So that lecturers could be able to differentiate between distance learning and face-to-face learning approaches because most of them are used to the conventional learning approach.

6.5. SUGGESTIONS FOR FURTHER RESEARCH

The study investigated experiences of secondary school teachers of distance learning mode of training in Malawi. The study specifically focussed on teachers' attitudes, knowledge of how distance learning operates as a constructivist learning mode, challenges and opportunities in distance learning and suggestions to improve the training of teachers through distance learning.

However, there is need to conduct further studies regarding distance learning in the future in the following proposed areas;

1. Investigate whether there is a difference or not between teachers trained through distance learning and those of conventional approach.
2. Explore secondary school teachers' knowledge of open and distance learning at secondary school level.
3. How distance learning could be used in vocational training institutions.
4. Investigate stakeholders' (students, lecturers and employers) perceptions towards distance learning.

6.6. LIMITATIONS OF THE STUDY

One of the challenges in this study was that the researcher had to visit each of the three schools now and then which was time-consuming and tiring. The findings of this study reflect teachers from the three particular schools at a particular time and context, as such; results of this study are not necessarily generalisable.

6.7. CONCLUSION

Distance learning involves a change from the traditional instructor-centred learning model to a student-centred system aiming at providing the necessary interactive instructional support required to engage and motivate students learning at a distance (Moore, 1989).

Based upon the data analysis, respondents in this study were generally satisfied with the distance learning programme that they went through and believed it provided a reasonable mix of autonomy and interaction (Moore, 1989). Distance learning approach applies a more student-centred model that allows students work on their own, rather than waiting from the teacher as the provider of knowledge.

Therefore, the current study supports the implementation of more distance learning programmes in Malawi, alongside the traditional instructor-centred approach in order to increase access to higher education to secondary school graduates who would like to attend higher education. In addition, lecturers involved in distance learning programmes need to be oriented on the duties and roles of a facilitator, in distance education because most of them are assimilated to the conventional teaching style.

REFERENCES

- Abruscato, J. (2000). *Teaching children science: A discovery approaches* (5th ed). Needham Heights, MA: Pearson Education Company.
- Agar, M. (1993) Speaking of ethnography. In Cohen, L., Manion, L. and Morrison, K. (2000). *Research methods in education* (5th ed). London: Routledge-Falmer.
- Aggarwal, Y.P. and Thakur, R. S. (2003). *Concepts and Terms in Educational Planning: A Guidebook*. New Delhi: National Institute of Educational Planning and Administration. Retrieved from <http://www.nuepa.org/Download/Publications/Concept%20and%20Terms%20used%20in%20Educational%20Planning%20and%20Administration.pdf>
- Amundsen, C. (1993). *The Evaluation of theory in Distance Education in Theoretical Principles of Distance Education*. London: Routledge.
- Anderson, G. (1998). *Fundamentals of educational research* (2nd ed). London: Routledge Falmer. Available: <http://www.itdl.org>
- Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *International Review of Research in Open and Distance Learning*, 4(2), (pp. 1-14). In Muirhead, B. (2004). Research insights into interactivity. *International Journal of Instructional Technology and Distance Learning*, 1(3), 65-70.
- Anderson, T. 1996. What in the world is constructivism? In Null, J. W. (2004). Is Constructivism Traditional? Historical and Practical Perspectives on a Popular Advocacy. *The Educational Forum*, 68, Winter 2004.
- Babelan, A. Z. (2012). Attitudes of Payne Noor University students toward Distance Education. *International Research Journal of Applied and Basic Sciences*, 3(5), 1040 -1044.
- Bagwandeem, D. R. et al., (1993). The Theory and Practice of In-service Education and Training for Teachers in South Africa. In Chikuya, H. H. (2007). *Teacher Education within the Context of Open and Distance Learning in Zimbabwe: A Case Study*. Unpublished PhD dissertation, University of South Africa.

- Bailey, C. A. (2007). *A guide to qualitative field research* (2nd ed). Thousand Oaks: Pine Forge Press.
- Banda, F. K. (n.d.). *Challenges in Distance Education: Experiences of Female Teacher-Learners at Domasi College of Education*. Zomba: Domasi College.
- Barker, B. O. (1993). *Broadening the definitions of distance education in light of the new telecommunications technologies in Distance Education: New Perspectives*. London: Routledge.
- Barron, A. E. (2002) et al Technologies for Education: A Practical Guide. In Chikuya, H. H. (2007). *Teacher Education within the Context of Open and Distance Learning in Zimbabwe: A Case Study*. Unpublished PhD dissertation, University of South Africa.
- Bates, A. W. (1995). *Implementing Flexible Open and Distance Education” in Telematics for Education and Training*. Amsterdam: 105 Press.
- Berge, Z. L. (2007). Successful distance education programs in sub-Saharan Africa. *Turkish Online Journal of Distance Education-TOJDE*, 8(2):12, 136 -145.
- Beutel, M. (2011). *Teachers Talking: Primary teachers’ contributions to the quality of education in Mozambique*. London: VSO International.
- Bhukuvhani, C., Mupa, M., Mhishi, M. and Dziva, D. (2012). Science practical work instructional technologies and open distance learning in science teacher training: A case study in Zimbabwe. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 8(2), 17-27.
- Biehler, R.F. and Snowman, J. (1993). *Psychology applied to teaching* (7th ed). Boston, MA: Houghton Mifflin Company.
- Birch, D. and McDonald, J. (2007). Attitudes of distance education students towards compulsory virtual teamwork in an underground business class. *E-Journal of Business Education and Scholarship of Teaching* 1 (1), 14-23.
- Bodner, G. M. (1986). Constructivism: A theory of knowledge. *Journal of Chemical Education*, 63, 873-878.

- Bontempi, E., (2003). Motivation and distance learning: What we know far. Integration. *Higgs South African Journal of Higher Education*. 16 (2), November 2003.
- Bouhnik, D. and Marcus, T. (2006). Interaction in Distance-Learning Courses. *Journal of the American Society for Information Science and Technology*, 57(3), 299–305.
- Bower, B. L. and Hardy, K. P. (2004). From Correspondence to Cyberspace: Changes and Challenges in Distance Education. *New directions for community colleges*, 128, Winter 2004.
- Brindley, J. E. (1995). Learners and Learner Services: The key to the future in distance education. In Roberts, J. M. and Keough, E. M. (eds) (n.d.). *Why the information highway: Lessons from open and distance learning*. Toronto: Trifolium Books.
- Brindley, J.E., Walti, C. and Zawacki-Richter, O. (eds) (2004). *Learner Support in Open, Distance and Online Learning Environments*. Carl von Ossietzky Universität Oldenburg: Center for Lifelong Learning (C3L). Retrieved from <http://www.bis-verlag.de>
- Brooks, J.G. and Brooks, M.G. (1999). *In search of understanding: The case of constructivist classroom, revised edition*. Alexandria: ASCD.
- Brunstein, J.C. and Maier, G .W. (2005). Implicit and self-attributed motives to achieve: Two separate but interacting needs. In Babelan, A. Z. (2012). Attitudes of Payne Noor University students toward Distance Education. *International Research Journal of Applied and Basic Sciences*, 3(5), 1040 -1044.
- Burton, N., Brundrett, M. and Jones, M. (2008). *Doing your education research project*. London: SAGE.
- Carin, A. A. (1997). *Teaching science through discovery* (8th ed). New Jersey: Prentice Hall.
- Castro, M. and Castro, M. (1998) “The Challenges of Bringing Technology to Education ” in Education in the Information Age. In Chikuya, H. H. (2007). *Teacher Education within the Context of Open and Distance Learning in Zimbabwe: A Case Study*. Unpublished PhD dissertation, University of South Africa.

- Chakwera, E. and Saiti, F. (2005). *Training Teachers Through The Distance Mode: The Experience Of Domasi College of Education In Malawi*. Domasi College of Education: Malawi.
- Chaney, D., Chaney, E. and Eddy, J. (2010). The context of Distance learning programs in Higher Education: Five Enabling Assumptions. *Online Journal of Distance Learning Administration*, 13 (4), Winter 2010.
- Chaya-Ngam, I. (1993). *The use of tele-teaching methods for the Development of Competence in Developing countries” in Tele-teaching*. Amsterdam: Elsevier science Publishers.
- Chikuya, H. H. (2007). *Teacher Education within the Context of Open and Distance Learning in Zimbabwe: A Case Study*. Unpublished PhD dissertation, University of South Africa.
- Chiziwa, W. K. M. C. (2012). *Implementation of outcome based education (OBE) in Malawi primary schools: the case of Rumphi district*. Unpublished Masters dissertation, University of Malawi.
- Cohen, L. and Manion, L. (1994). *Research Methods in Education* (4th ed). London: Routledge.
- Cohen, L., Manion, L. and Morrison, K. (2000). *Research methods in education* (3th ed). London: Routledge-Falmer.
- Cohen, L., Manion, L. and Morrison, K. (2005). *Research methods in education* (5th ed). London: Routledge-Falmer.
- Cohen, L., Manion, L. and Morrison, K. (2007). *Research methods in education* (6th ed). London: Routledge.
- Connick, P. (1999). *Distance Learner’s Guide*. New Jersey: Prentice Hall.
- Cooperstein, S. E. and Kocevar-Weidinger, E. (2004). Beyond active learning: a constructivist approach to learning. *Reference Services Review*, 32 (2): 141-148.
- Creswell, J. W. (2003). *Research design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed). Thousand Oaks: SAGE.

- Creswell, J.W. (2009). *Research Design: Qualitative and Quantitative Approaches*. London: Sage publications.
- Crotty, M. (1998). The foundations of social research. In Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating Ontology, Epistemology to the methodology and methods of Scientific, Interpretive and Critical Research Paradigms. *English Language technology*, 5(9), 9 – 16.
- Cunningham, R. F. (2004). Problem posing: An opportunity for increasing student responsibility. *Mathematics and Computer Education*, 38, 83-89.
- Daniel, J. (2005). *News from Commonwealth of Learning*. 10 (3), October 2005.
- Daniel, J. S. (2010). *Mega-schools, technology and teachers*. New York: Routledge.
- Daniel, J.S. (1993). *A duty for distance education in the 1990s in Distance Education: New Perspectives*. London: Routledge.
- Dillon, C.L., Gunawardena, C.N., and Parker, R. (1992). Learner support: The critical link in distance education. *Distance Education*, 13(1), 29-45.
- Dillon, D., & Cintron, R. (1997). *Distance education and the community college: From convention to vision*. San Francisco: Jossey-Bass.
- Ding, X. (1994). China's Higher Distance Education. *Distance Education* 15 (2) 327 – 346.
- Dymoke, S. and Harrison, J. (eds) (2008). *Reflective teaching and learning: A guide to professional issues for beginning secondary school teachers*. London: SAGE.
- Dzakiria, H. (2012). *Illuminating the importance of learning interaction to open and distance learning (ODL) success: A qualitative perspective of adult learners in Perlis, Malaysia*. University Utara, Malaysia.
- Economist (2010). *Distance-learning special 2010*. London: The Economist Newspaper Ltd.
- Flick, U. (2006). *An Introduction to qualitative research* (4th ed). London: SAGE.
- Fung, Y.Y.H. (2004). Collaborative online learning: interaction patterns and limiting factors. *Open Learning*, 19(2), 135–149.

- Gagne, M. and Shepherd, M. (2001). A Comparison between a distance and traditional graduate accounting class. *T.H.E journal*, 28 (9).
- Gakuu, C. M. (2005). *Analysis of the factors and attitudes that influence lecturer's readiness to adopt distance education and the use of ICT in teaching: The University of Nairobi Case*. Unpublished PhD Dissertation pilot study.
- Gallogly, J. T. (2005). *Relationship of student satisfaction levels in distance learning and traditional classroom environments at Embry-Riddle Aeronautical University*. Unpublished PhD dissertation, University of Central Florida, Orlando, Florida.
- Gilbert, S. W. (1995). Why distance education? A special bulletin. *American Association for Higher Education*, 48.
- Goodman, G. S. (ed) (2008). *Educational Psychology: An application of Critical Construction*. New York: Peter Lang Publishing.
- Hanna, A. (2007). Interviews in Education Research. In Kalefya, C. (2014). *An understanding of Head teachers' skills and competencies in financial resource management for secondary schools in Malawi: A case of some of the secondary schools in Shire Highlands Education Division*. Unpublished Masters dissertation, Mzuzu University.
- Hannay, M. and Newvine, T. (2006). Perceptions of distance learning: A comparison of online and traditional learning. *Journal of Online Learning and Teaching*, 2(1): 1-11.
- Harlen, W. (2000). *Teaching, Learning and Assessing Science 5 -12* (3rd ed). London: Paul Chapman.
- Haruthaithanasan, T. (2010). *The effects of experiences with constructivist instruction on attitudes toward democracy among Thai college students*. Unpublished PhD dissertation, University of Missouri.
- Heins, G. E. (1991). *Constructivist Learning Theory*. Retrieved 16 June, 2014 from <http://www.exploratorium.edu/ifi/resources/constructivistlearning.html>
- Hobbs, S. (1997). ODLITE – Open and Distance Learning in Teacher Education. *European Journal of Teacher Education* 20(1).
- Holliday, A. (2002). *Doing and Writing Qualitative Research*. London: SAGE Publications.

- Holmberg, B. (1977). *Distance Education: A Survey and Bibliography*. London: Kogan Page.
- Inman, E., Kerwin, M. & L. Mayes (1999). Instructor and student attitudes toward distance learning. In Hannay, M. and Newvine, T. (2006). Perceptions of distance learning: A comparison of online and traditional learning. *Journal of Online Learning and Teaching*, 2(1): 1-11.
- Katz, Y. J. (2002). Attitudes affecting college students' preferences for distance learning. *Journal of Computer Assisted Learning* 18, 2 - 9.
- Jana, R. (1999). Getting the most out of online learning. *InfoWorld* 21(37), 119.
- Januszewski, A. and Molenda, M. (2008). *Educational technology: A definition with Commentary*. New York: Routledge.
- Kalima, R. C. (2011). *Effectiveness of e-Learning materials in institutions of higher learning: Case study of Domasi College of Education in Malawi*. Unpublished Master's thesis, Kumamoto University, Japan.
- Kamara, A. P. (n.d.). *Distance education can solve the numerous educational problems in third world Africa: a case study of Sierra Leone*. Unpublished PhD dissertation, Saint Clements University.
- Karsenti, T. (1998). *Student Motivation and Distance Education on the Web: Love at First Sight?* Unpublished doctoral thesis presented to the University of Quebec, Montréal.
- Kear, K. (2004). Peer learning using asynchronous discussion systems in distance education. *Open Learning*, 19(2), 151–164.
- Keegan, D. (1980). "On defining distance education" in Distance Education. In Chikuya, H. H. (2007). *Teacher Education within the Context of Open and Distance Learning in Zimbabwe: A Case Study*. Unpublished PhD dissertation, University of South Africa.
- Keegan, D. (1990). *Foundations of Distance Education*. London: Routledge.
- Keegan, D. (1986). *The Foundations of Distance Education*. London: Croom Helm.

- Keegan, D. (1996). Foundations of Distance Education. In Ojo, D. O. and Olakulehin, F. K. (2006). Attitudes and Perceptions of Students to Open and Distance Learning in Nigeria. *International Review of Research in Open and Distance Learning*, 7(1): 1-10.
- Keller, J. M. & Burkman, E. (1993). Motivation principles. In M. Fleming & W.H. Levie (Eds.) *Instructional message design: Principles from the behavioral and cognitive sciences* (pp. 3-53) (2nd ed.). Englewood Cliffs, NJ: Educational Technology.
- Keller, J.M. (1983). Motivational design of instruction. In C.M. Reiguluth (Ed.) *Instructional design theories and models: An overview of their current status.* Hillsdale, NJ: Lawrence Erlbaum.
- Kimani, C. W. (2012). *Teaching deaf learners in Kenyan classrooms.* Unpublished PhD thesis, University of Sussex. Retrieved from <http://sro.sussex.ac.uk/>
- Kleinman, J. and Entin, E. B. (2002). Comparison of in-class and distance-learning students' performance and attitudes in an introductory computer science course. Consortium for Computing in Small Colleges: North-eastern Conference. *JCSC* 17 (6), 206 -219.
- Klingner, B. G. (2003). The relationship between learning styles of adult learners enrolled in online courses at Pace University and success and satisfaction with online learning. *Dissertation Abstracts International*, 6, 1155.
- Knapper, C. (1988). Lifelong Learning and Distance Education. *American Journal of Distance Education*, 2(1), 63-72.
- Koohang, A. and Durante, A. (2003). Learners' Perceptions toward the Web-based Distance Learning Activities/Assignments Portion of an Undergraduate Hybrid Instructional Model. *Journal of Information Technology Education* 2, 105 - 113.
- Kutz, E. and Roskelly, H. (1991). *An Unquiet Pedagogy: Transforming Practice in the English Classroom.* In Hubbard, G. T. (2012). Discovering Constructivism: How A Project-Oriented Activity-Based Media Production Course Effectively Employed Constructivist Teaching Principles. *Journal of Media Literacy Education* 4(2), 159 - 166.
- Laymaman, C.F. (n.d.). *MCDE to move to resource-based open learning.* Blantyre: MCDE.

- Liu, S. (2008). Student interaction experiences in distance learning courses: a phenomenological study. *Online Journal of Distance Learning Administration*, 11(1). Retrieved from <http://www.westga.edu/~distance/ojdla/spring111/Liu111.html>
- Llewellyn, D. (2007). *Inquire within: Implementing inquiry-based science standards in grade 3-8* (2nd ed). London: SAGE Publications.
- Lundin, R. (1993). *Theme: Open Learning, Open Access, Distance Learning and the Applications of Technology Schooling through Distance Education*. Queensland, Australia: Society for the Provision of Education in Rural Australia.
- MacQueen, H. and Thomas, J. (2009). Teaching Biology at a Distance: Pleasures, Pitfalls and Possibilities. In Bhukuvhani, C., Mupa, M., Mhishi, M. and Dziva, D. (2012). Science practical work instructional technologies and open distance learning in science teacher training: A case study in Zimbabwe. *International Journal of Education and Development using Information and Communication Technology* (IJEDICT), 8 (2): 17-27.
- Mangan, K. S. (2001). Expectations evaporate for online MBA programs. *Chronicle of Higher Education*, 48(6), A31.
- Matthews, D A. (2002). *Utilisation of Distance Education in Higher Education in the United States in The Design and Management of Effective Distance Learning Programs*. New York: IRM Press.
- McInerney, D. M. and McInerney V. (2009). *Educational Psychology: Constructing learning* (3rd ed). Frenchs Forest: Pearson Education.
- Mertens, D. M. (1998). *Research Methods in Education and Psychology: Integrating diversity with quantitative and qualitative approaches*. Thousand Oaks, CA: SAGE.
- Mertens, D.M. (2005). *Research and evaluation in education and Psychology: Integrating diversity with quantitative, qualitative and mixed methods* (2nd ed). Thousand Oaks, CA: SAGE Publications.
- Miles, M. B. and Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed). Thousand Oaks, CA: SAGE.

- Moore, M. G. (1993). Three types of interaction. In Watson, S. (2009). *Distance education students' attitudes towards increased online interaction: desired change or unwanted imposition?* Darwin: HERDSA.
- Moore, M. G. (2001). Surviving as a distance teacher. *The American Journal of Distance Education*, 15(2), 1-5.
- Moore, M., & Kearsley, G. (1996). *Distance education: A systems view*. New York: Wadsworth Publishing Company.
- Moore, M.G. (1980). Independent study. In R. Boyd & J. Apps (eds.) (2003). *Redefining the discipline of adult education*. San Francisco: Jossey-Bass. Retrieved from <http://www.ajde.com/publications.htm>
- Moore, M.G. (1989). Three types of interaction. *The American Journal of Distance Education*, 3(2), 1–6.
- Motteram, G., & Forrester, G. (2005). Becoming an online distance learner: what can be learned from students' experiences of induction to distance programmes? *Distance Education*, 26(3), 281–298.
- Msiska, F.G.W. (2013). *The use of distance education for teacher training and development in Malawi: Models, practices and successes*. Paper presented at distance education and teacher education in Africa (DETA) Conference, Nairobi, Kenya 30th July – 1st August, 2013.
- Muilenburg, L. and Berge Z. L. (2001). Barriers to distance education: A factor-analytic study. *The American Journal of Distance Education*, 15(2), 7-22.
- Murphy, E. and Coffin, G. (2003). The interaction. *The American Journal of Distance Educational*, 17(4), 235 - 246.
- Mwale, J. (1993). *Alternative Techniques for Delivering IMSERT in Distance Education for Teacher Training*. London. Routledge.
- Mzuzu University (2014). *University selection: 2014/2015 intake for generic undergraduate programmes to commence on Monday 3rd November 2014*. Retrieved October 15, 2014, from www.mzuni.ac.org

- Nankhwenya, I.A.J. (1974). The origin and development of correspondence education in Malawi 1962 – 1972. In Msiska, F.G.W. (2013). *The use of distance education for teacher training and development in Malawi: Models, practices and successes*. Paper presented at distance education and teacher education in Africa (DETA) Conference, Nairobi Kenya 30th July – 1st August, 2013.
- Ndengu, D.M. (2012). *Designing and conducting qualitative research: A guide for post graduate students in the social sciences*. Mzuzu: Mzuni Press.
- Ngubane, W.S. (2005). *An investigation into the implementation of participative management in a rural school in the Pietermaritzburg district*. Unpublished Masters Dissertation, Rhodes University.
- Nihuka, K.A. and Voogt, J. (2011). E-learning course design in teacher design teams: Experiences in the open and University of Tanzania. *International Journal of Learning Technology*, 6(2), 107 - 124.
- Nyandara, Z. I. (2012). Challenges and Opportunities of Technology Based Instruction in Open and Distance learning: A comparative study of Tanzania and China. *Proceedings of report of the 5th UbuntuNet Alliance Annual conference*, pp130–145.
- O'Malley, J. (1999). *Students Perceptions of Distance Learning, Online Learning and the Traditional Classroom*. State University of West Georgia. Winter 1999.
- Ojo, D. O. and Olakulehin, F. K. (2006). Attitudes and perceptions of students to open and distance learning in Nigeria. *International Review of Research in Open and Distance Learning*, 7(1), 1-10.
- O'Reilly, M., & Newton, D. (2002). Interaction online: above and beyond requirements of assessment. *Australian Journal of Educational Technology*, 18(1), 57–70.
- Othman, N. A. (2012). *Prior educational experiences and cultural factors in the learners' attitudes and behaviours: A case study of distance learning English course at UiTM, Malaysia*. Unpublished PhD dissertation, University of Stirling.
- Pailman, K.D. (1986) *Open Learning for Workplace Education, Training and Development*. Unpublished Thesis Rand. Afrikaans University.

- Parsons, A. (1989). *Structuring Courses for Delivery Via Telecommunications in The Sixth International Conference on Technology and Education*. Edinburgh: C.E.P. Consultants.
- Paudyal, D. R. (2006). E-learning experiences and sustainability: A piloting of distance MSc Thesis supervision at ITC, the Netherlands. *International archives of the Photogrammetry, Remote Sensing and Spatial Information Science*, 36 (9), 254 - 258.
- Perraton, H. (2000). *Open and Distance Learning in the Developing World*. London: Routledge.
- Perraton, H. (2010). *Teacher Education: the Role of Open and Distance Learning*. London: Commonwealth of Learning.
- Perraton, H.D. (2007). *Open and distance learning in developing world*. London: Routledge.
- Peters, J.M. and Gega, P.C. (2002). *How to teach elementary school science* (4th ed). New Jersey: Pearson Education.
- Peters, O. (2010). *Distance education in transition: developments and issues* (5th ed). Carl von Ossietzky of Oldenburg: Bls-Verlag.
- Piaget, J. (1967). Six Psychological Studies. In Bodner, G. M. (1986). Constructivism: A theory of knowledge. *Journal of Chemical Education*, 63, 873 - 878.
- Piaget, J. (1973). *To understand is to invent: The future of education*. New York: Grossman.
- Picciano, A. C. (2001). *Distance Learning: Making connections across virtual space and time*. Upper Saddle River, NJ: Merrill Prentice Hall.
- Pityana, N. B. (2004). *Open distance learning in Africa: Access, Quality, Success*. Pretoria: University of South Africa.
- Pollard, A. (1997). *Reflective teaching in the primary school: A handbook for the classroom* (3rd ed). London: Continuum.
- Prawat, R. & Floden, R.E. (1994). Philosophical perspectives on constructivist views of learning. *Educational Psychology*, 29(1), 37-48.

- Ramos, G. P. (2001). *E-learning not effective for everyone*. Computerworld: Philippines, 1.
- Raskin, J. D. (2002). Constructivism in Psychology: Personal Construct Psychology, Radical Constructivism, and Social Constructionism. *American Communication Journal*, 5(3), 1-26.
- Richardson, V. (2003). Constructivist pedagogy. *Teachers college record*, 105 (5), 1623-1640.
- Roblyer, M. D. and Jack E. (2000). *Integrating Educational Technology into teaching* (2nd ed). New Jersey: Prentice Hall.
- Rosenbaum, D. B. (2001). E-learning beckons busy professionals. *ENR*, 246(21), 38-42.
- Ross, A. A. (2006). *The effects of constructivist teaching approaches on middle school students' algebraic understanding*. Unpublished PhD dissertation, Texas A&M University.
- Rumajogee, R., Jeeroburkhan, F., Mohadeb, P. and Mooneesamy, V. (2003). *Case Study on Distance Education for Teacher Education in Mauritius*. ADEA Biennial Meeting 2003 Grand Baie, Mauritius, December 3-6, 2003.
- Savenye, W.C. and Robinson, R.S (1996). *Qualitative research issues and methods: an introduction for educational technologies, Handbook of Research for Educational Communication and Technology*. New York: Simon and Schuster Macmillan.
- Schuemer, R. (1993). *Some psychological aspects of distance education*. Hagen, Germany: Institute for Research into Distance Education.
- Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating Ontology, Epistemology to the methodology and methods of Scientific, Interpretive and Critical Research Paradigms. *English Language technology*, 5(9), 9 – 16. Retrieved from <http://dx.doi.org/105539/elt.v5n9p9>
- Sharp, J.G. (2012). *Success with your education research project* (2nd ed). London: SAGE.
- Slavin, R. E. (2000). *Educational Psychology: Theory and practice* (6th ed). Needham Heights, MA: Allyn & Bacon.

- Smith, L. J. (2001). Content and delivery: A comparison and contrast of electronic and traditional MBA marketing planning courses. *Journal of Marketing Education*, 23, (1), 35.
- Snowman, J. and Biehler, R. (2003). *Psychology applied to teaching* (10th ed). Boston, MA: Houghton Mifflin Company.
- Strain, J. (1987). The role of the faculty member in distance education. *American Journal of Distance Education*, 1 (2).
- Stringer, S. (2004). *Action Research in Education*. New Jersey: Pearson Merrill Prentice Hall.
- Su, B., Bonk, C. J., Magjuka, R. J., Liu, X., and Lee, S. (2005). The importance of interaction in web-based education: a program-level case study of online MBA courses. *Journal of Interactive Online Learning*, 4(1). Retrieved June 4, 2014, from <http://www.ncolr.org/jiol/issues/PDF/4.1.1.pdf>
- Sweet, R. (1986). Student Drop-out in Distance Education: An Application of Tinto's Model. *Distance Education*, 7, 201-213.
- Tifflin, J., & Rajasingham, L. (1995). In search of the virtual class: Education in an information society. London: Routledge. In Gallogly, J. T. (2005). *Relationship of student satisfaction levels in distance learning and traditional classroom environments at Embry-Riddle Aeronautical University*. Unpublished PhD dissertation, University of Central Florida, Orlando, Florida.
- Tomei, L. (2009). *Information Communication Technologies for Enhanced Education and Learning: Advanced applications and Developments*. Hershey, PA: Information Science Reference.
- UNESCO (2010). *EFA global monitoring report: Reaching the marginalized*. Oxford: Oxford Press.
- United States Department, Office of Planning and Evaluation (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis review of online learning studies*. Retrieved from <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

- von Glasersfeld, E. (1980). Paper presented at the International Congress on Applied Systems Research and Cybernetics. In Bodner, G. M. (1986). *Constructivism: A theory of knowledge. Journal of Chemical Education*, 63, 873-878.
- von Glasersfeld, E. (1996). Response: Footnotes to 'The many faces of constructivism'. In Ross, A. A. (2006). *The effects of constructivist teaching approaches on middle school students' algebraic understanding*. Unpublished PhD dissertation, Texas A&M University.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Process*. Cambridge, MA: Harvard University Press. In Haruthaithanasan, T. (2010). *The effects of experiences with constructivist instruction on attitudes toward democracy among Thai college students*. Unpublished PhD dissertation, University of Missouri.
- Walstrom, C., William, B. P. and Shea, P. (2003). The Successful Distance Learning Student. In Babelan, A. Z. (2012). Attitudes of Payne Noor University students toward Distance Education. *International Research Journal of Applied and Basic Sciences*, 3(5), 1040-1044. Retrieved from <http://www.irjabs.com>
- Watson, S. (2009). *Distance education students' attitudes towards increased online interaction: desired change or unwanted imposition?* In The Student Experience, Proceedings of the 32nd HERDSA Annual Conference, Darwin, 6-9 July 2009: 453-462.
- Wells, G. and Chang-Wells, G. L. (1992). *Constructing knowledge together: Classroom as centres of inquiry and literacy*. Portsworth, NH: Heinemann.
- Whitworth, J.M (1999). *Looking at Distance Education Through Both Ends of the Camera. The American Journal of Distance Education*. 13(2): 64-73. Retrieved from <http://www.editlib.org/p/89078/>
- Willis, B. (1993) *Distance Education: A Practical Guide. Technology Publications. Clearing House of University of Wilson 2001*. New Jersey: Foundations.
- Wong, S. (1992). *Asia and Pacific: A Survey of Distance Education*. National Institute of Multimedia Education.

- Wood, T. and Sellers, P. (1997). Deepening the analysis: Longitudinal assessment of a problem-centered mathematics program. *Journal for Research in Mathematics Education*, 28, 163-186.
- Wretch, J.V (1997) "Vygotsky and the formation of the mind" Cambridge. Retrieved May 9, 2014 from http://en.wikipedia.org/wiki/Constructivist_epistemology
- Yusuf, M. O. (2006). Problems and Prospects of open and distance education in Nigeria. *Turkish Online Journal of Distance Education-TOJOE*, 7(1), 2: 22-29.

APPENDICES

Appendix 1: The Permission letter from Mzuzu University

Appendix 2: The consent letter

MZUZU UNIVERSITY

Informed Consent Form

Title of Study: Secondary school teachers' experiences of distance learning in Malawi.

Investigator: Godfrey Msukwa MEd (student)

I. Purpose

The goal of this study is to investigate teachers' experiences of distance learning as a mode of training. My interest is to interact with you on how you view the distance learning approach. I am conducting this study in partial fulfilment of my Master of Education studies and I will use the research study to write-up my dissertation paper.

II. Procedures

I would like to interview you on how you perceive the distance learning programme. I will ask you a series of open-ended questions, and I would like to audio-record the interview for the purposes of data analysis only. This will help me when making verbatim transcription of the data. Some of the questions include:

1. What is your impression of distance learning as a mode of training teachers?
2. Why should distance learning be used in training s teachers?
3. How do you understand distance learning as a constructivist approach, in relation to interaction and learner autonomy?
4. What are the challenges that you faced in the course of your training?
5. What could be needed for effective training of teachers through distance learning in the future?

III. Risks

There are no risks involved in this project. You will not be asked to be involved in any situation that will cause you any physical danger or psychological stress. The interview is for the purpose of more fully coming to understand how you view the distance learning programme. This information may be shared with a wider audience through presentations and/or publications.

IV. Benefits

The study may help Domasi College of Education on how they could design courses for the distance learning programme. In addition, the study may also help in overall curriculum development processes and policy making regarding distance learning as a mode of training teachers in Malawi.

V. Extent of Anonymity and Confidentiality

All the information from this study will be strictly confidential. I will not use your actual name in the collection and analysis of the data, and in the final documentation of the study. The audio-recorded interviews will be destroyed at the conclusion of the study.

VII. Freedom to Withdraw

Your participation is entirely voluntary. You may refuse to answer specific questions. You may withdraw from participation at any time without any repercussions.

IX. Respondent's Permission

By signing this consent form, I confirm I have read and understand the information presented in it. I have had the opportunity to ask questions. I understand my participation is voluntary, and I am free to withdraw at any time without giving a reason and without cost. I voluntarily agree to take part in this study.

I hereby acknowledge the above and give my consent:

_____ Date: _____

Respondent's signature

Should you have any questions regarding this research or its conduct, please contact:

Godfrey Msukwa: 0 888 552 202 / 0 999 552 202 Email: gmsukwa@gmail.com

Appendix 3: Interview guide for Teachers

INTERVIEW GUIDE QUESTIONS FOR TEACHERS

6. What is your impression of distance learning mode of training teachers?
7. How do you understand distance learning in terms of learner autonomy?
8. How often did you interact with your fellow students at school and home?
9. How did you interact with your lectures while at home?
10. What are the challenges you faced during your training/studies?
11. How do you look at the quality of teachers trained through distance learning?
12. How did you manage to study topics involving experiments while at home?
13. What could be needed for effective training of teachers through distance learning in the future?

Appendix 4: Interview guide for Head teachers

INTERVIEW GUIDE QUESTIONS FOR HEAD TEACHERS

1. What is your impression of distance learning mode of training teachers?
2. How do you understand distance learning in terms of learner autonomy?
3. What are some of the challenges you think distance learners face during their training?
4. How do you compare teachers trained through distance learning and those of face-to-face?
5. Do you have any suggestion for effective training of teachers through distance learning?