INVESTIGATING TEACHER EDUCATORS' INTEGRATION OF CRITICAL THINKING PEDAGOGIES IN SOCIAL SCIENCE SUBJECTS: THE CASE OF FOUR SELECTED TEACHER TRAINING COLLEGES IN MALAWI.

By

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At

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DECLARATION.

I declare that *"An investigation on teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Malawian Teacher Training Colleges"* is my own work and that all the sources that I have used or quoted have been indicated by means of complete references. It is being submitted in the partial fulfilment of the requirements for the award of Master's degree in Education (Teacher Education) by research thesis at Mzuzu University. It has not been submitted before for any degree or examination in any other university.

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MEdTE/13/18.

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DATE.

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This study is dedicated to my family and in a very special way to my late father (Mr. Readson Buledi Majawa) and late mother (Fagess Mungomo) who worked tirelessly initiating for my long academic journey. You sow, but never ate the fruits of the job you did so well. May the good LORD consider you in His Kingdom.

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DEFINITION OF TERMS.

Creative Thinking is a process that permits one to think without restrictions.

Critical Thinking is the purposeful, reasoned and goal-directed and is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods and making decisions.

Mediation means that something comes in between the learner and his/her learning to assist interpret and understand things they learn about.

Pedagogy is an umbrella term to describe teaching and learning methods together with the rationale behind them.

Scaffolding refers to 'providing temporary, adjustable support for learning.

Teacher Educator is any professional whose work contributes in some way to the initial education or the continuing professional development of school and other teachers.

Polarization refers to a form of cultural coping strategy, developed in response to experience and circumstances.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS.

1. **AIDS** -Acquired Immune Deficiency Syndrome.
2. **CT** -Critical Thinking.
3. **DTED** -Department of Teacher Education Development.
4. **HIV** -Human Immune Virus.
5. **ICT** -Information and Communication Technology.
6. **IT** - Information and Technology.
7. **INSERT** -Instructional Note-Taking System for Enhanced Reading and Thinking
8. **IPTE** -Initial Primary Teacher Education.
9. **LCT** -Learner-Centered Teaching.
10. **MANEB** -Malawi National Examinations Board.
11. **MGDS** -Malawi Growth and Development Strategy.
12. **MIE** -Malawi Institute of Education.
13. **MIPTE** -Malawi Initial Primary Teacher Education.
14. **MoEST** -Ministry of Education, Science and Technology.
15. **MRA** -Malawi Revenue Authority.
16. **NESP** -National Education Sector Plan.
17. **NGE** -National Goals of Education.
18. **NRP** -National Reading Programme.

19. OSF -Open Society Foundations.

20. OSISA -Open Society Initiative for Southern Africa.

21. PCK - Pedagogical Content Knowledge.

22. PTE -Primary Teacher Education.

23. RWCT -Reading and Writing for Critical Thinking.

24. TE -Teacher Education.

25. TTCs -Teachers' Training Colleges.

ABSTRACT.

The objective of educational innovation, wherever it takes place, at college or at national level, is to improve current practices. In its recent attempt to improve the quality of education in Malawi, the Ministry of Education, Science and Technology (MoEST) through the Malawi Institute of Education (MIE) has revised the Primary Teacher Education curriculum. One of the main aims for the review of the curriculum was to include critical thinking pedagogies as an effective tool for improving the quality of teacher education in the country. So far, little is known about the teacher educators' practices in integrating critical thinking pedagogies including the possible challenges which the teacher educators might be facing in the integration of critical thinking in the classroom. It is against this background of the knowledge gap on how teacher educators are integrating critical thinking in their lessons and the possible challenges which they may be facing, that this study was undertaken to investigate in-depth the teacher educators' practices in integrating critical thinking pedagogies at lesson delivery level in the classroom.

The study was conducted in four teacher education colleges of which two were from the Southern region and the other two were from the Central region of the country. Qualitative research method which employed a case study design was used and data was analyzed using thematic approach. Fourteen of the participants involved in this study were teacher educators while four of the participants were college principals. Following a qualitative research design, data was collected through document review, face to face interviews with the college principals and teacher educators and classroom lesson observations of the teacher educators in order to provide methodological triangulation of the data. The study has found that the majority of teacher educators have insufficient knowledge on the aims and importance of critical thinking. This lack of enough knowledge has contributed to a number of challenges in teacher educators' integration of critical

thinking methods in their lessons. The challenges of teacher educators' knowledge gap on the aims and importance of critical thinking has been aggravated by the insufficient and ineffective training in critical thinking received by teacher educators. As a result, the majority of teacher educators are unable to include critical thinking methods during some specific phases of their lessons especially development and conclusion phases. For those teacher educators who make some effort to include critical thinking methods in their lessons use unsuitable methods for specific lesson phases. The study further found that the majority of teacher educators were not able to use assessment tasks which promote critical thinking but they predominantly use lower levels of assessment tasks which focused on simple, parochial recall questions.

The study has concluded that the introduction of critical thinking was poorly managed such that primary teacher education colleges did not have adequate capacity to successfully integrate critical thinking in primary teacher education. The study recommends that in the future, the implementation of innovations such as critical thinking in the new teacher education curriculum is adequately planned in terms of orientation and in-service training for teacher educators. On the same, Ministry of Education should stop the use of the cascade model in training teacher educators. There is also need to revise the time allocated for teaching each subject to address the issue of limited time in the integration of critical thinking. Finally, the study recommends that government should ensure that instructional materials that promote critical thinking are available in all teacher education colleges.

Keywords: Critical thinking, pedagogies, pedagogical content knowledge, pedagogy of the oppressed, teacher education, integration, Social Sciences.

CHAPTER 1: INTRODUCTION AND BACKGROUND OF THE STUDY.

This chapter presents the introduction, background of the study, problem statement and purpose of the study, significance of the study, research questions, theoretical framework, and ends with the chapter summary.

1.1 Introduction.

The objective of educational innovation, wherever it takes place, at school or at national level, is to improve current practices. Recently, there have been curriculum reforms taking place worldwide which involve new innovations. One of these new innovations has been the inclusion of critical thinking in the new curricular. For instance, in Malaysia, Zohir *et al*. (2010) explored that teachers' critical thinking pedagogical practices were investigated by observing classroom practices of Malaysian secondary school Geography teachers. Findings of the study revealed that the practice of critical thinking amongst the teachers was very low. The teachers were observed to have been using more traditional teacher-centred methods in which there were very limited interactions between the teachers and the students. Teachers' critical thinking pedagogical practices were also investigated by Ishak (2010) to investigate critical pedagogical classroom practices of Malaysian secondary school Science teachers. Findings of the study indicated that the practice of Critical Thinking was very low amongst teachers.

In its attempt to improve the quality of education in Malawi, the Ministry of Education, Science and Technology, through the Malawi Institute of Education has revised the primary teacher education curriculum. The Initial Primary Teacher Education (IPTE) has reviewed in order to respond to the current needs and developments in education. The implementation of the reviewed curriculum started in January 2018. Apart from changing from the former one plus one (that is

students being in college for one academic year and doing teaching practice in schools during the second year of their teacher training) the reviewed primary teacher education approach has adopted a new philosophy of teacher education which guides the training of the teachers. The implementation started with the development of instructional modules for students to use during lessons and teacher educators were trained on how to use the modules.

Following the implementation of the IPTE curriculum reform, the purpose of this study was to investigate the integration of Critical Thinking pedagogies in teacher education college classrooms, early in the implementation of the IPTE curriculum so as to find out if the Critical Thinking pedagogies in reviewed IPTE curriculum are being implemented as intended by Ministry of Education in order to find ways of addressing any challenges facing the implementation of Critical Thinking pedagogies.

1.2 Background of the Study.

The Ministry of Education, Science and Technology reformed both the primary school and Initial Primary Teacher Education (IPTE) curricula in 2006 with an aim of improving the quality of primary and teacher education in Malawi (Susuwele-Banda, 2017). The process of reforming the Initial Primary Teacher Education curriculum began in 2004 and the curriculum was introduced into teacher training colleges (TTCs) in 2006. According to In-Went (2008), the primary and teacher education curricula reforms were meant to address the lowering standards of education in Malawi and to respond to the current trends in the education sector. Both the primary school and teacher education reforms led to the adoption of Learner-Centered Teaching (LCT) which promotes the use of active learning pedagogies as a means to achieve the intended learning outcomes in the teaching and learning process (Susuwele-Banda, 2017). Learner-centered teaching has shown to have positive effects in learning in the classroom. These approaches exceed

traditional teacher-centered approaches with regard to effective learning. Traditional approaches place the learner in a passive role and passive learning is ineffective in terms of the learner's ability to make productive use of the new knowledge and skills acquired. Learner Centered Teaching is an outcome-based instructional approach which seeks teachers' active involvement of learners in classroom processes with emphasis on learners' learning. At the centre of learner-centred teaching is the promotion of learners' creative, critical thinking and problem-solving skills by providing learners with opportunities to construct knowledge and apply it beyond the classroom.

Later in 2015 the Ministry of Education, Science and Technology through the Malawi Institute of Education reviewed the IPTE curriculum. The curriculum was reviewed for the following reasons: firstly, to align it with the teacher education curriculum to the reviewed primary curriculum, which advocates for early development of reading, writing and numeracy skills as per the National Reading Strategy. Secondly, to strengthen continuous assessment as a tool for improving learning and teaching in the curriculum. It is argued that teachers using formative assessment approaches and techniques are better prepared to meet diverse students' needs, through differentiation and adaptation of teaching to raise levels of student achievement and to achieve a greater equity of student outcomes (Malawi Institute of Education, 2017). Thirdly, in order to have teacher education that address and respond to contemporary issues such as gender, Information and Communication Technology (ICT), HIV and AIDS, climate change and Critical Thinking.

Fourthly, in order to have teacher education guided by teacher education philosophy. The teacher education philosophy focuses on producing a reflective, autonomous, lifelong learning teacher, able to display moral values and embrace learners' diversity. It is the third reason, which is to include Critical Thinking in the IPTE curriculum, for which the Ministry of Education through the Malawi Institute reviewed the 2006 IPTE curriculum which is the focus of this study.

The introduction of Critical Thinking in the revised Initial Primary Teacher Education curriculum constitutes a problem that require a thorough investigation. The problem comes about because the Ministry of Education expects teacher educators to change their classroom practices from the traditional didactic teaching to student-centred teaching and participatory learning. For example, in connection with the introduction of Critical Thinking in the IPTE curriculum, Ministry of Education, through the Malawi Institute of Education (2017) argues that, teacher educators in the new curriculum must depart from using the traditional teaching methods for training teachers to focus more on student -centred or participatory methods (p.11).

This assumption is not without problems, of course, because such a shift requires that teacher educator must possess appropriate content and instructional knowledge for implementing critical student-centred classroom practices. It is against this background of the introduction of Critical Thinking pedagogies in the Initial Primary Teacher Education, within the prevailing constraints in the education system of the country that this study sets out to investigate the integration of Critical Thinking pedagogies in teacher education college classrooms, early in the implementation of the IPTE curriculum to unearth the possible challenges which teacher educators may be encountering in implementing the pedagogies in order to find ways of addressing any challenges facing the implementation of Critical Thinking pedagogies.

1.3 Problem Statement.

A fundamental purpose of education is to prepare young people for life in society, and since societies throughout the world are constantly changing and developing, education can also be expected to change (Fullan & Hargreaves, 1992, p.36). However, debates about quality have been part of the teacher education landscape for more than a century. Often these debates have been tied to perceptions of "crisis" in the public colleges (Darling-Hammond & Bransford, 2005, p. 442).

To conquer with this assertion, it has been argued that, there has been public dissatisfaction with primary teacher education in the country (Noll, 2008, p. 391). As such, the education system is failing to achieve its mission of providing quality and relevant education to the Malawi nation to enable people to acquire relevant knowledge, skills, expertise and competencies to perform effectively as citizens, workforce and as leaders of the country.

At the centre of a successful curriculum implementation are the teaching strategies that teacher educators use to deliver content. Effective teaching and learning involves participation of both the teacher educator and the student teacher (Mtunda & Safuli, 1985). Thus, quality primary teacher education is the prerequisite for improving the quality of basic education in Malawi. For the past decades, primary teacher education in Malawi has been characterized by prevalent use of Teacher-Centred Methods in delivering information to the student teachers. This is also known as *"transmission"* teaching. It is sometimes called **didactic** teaching, meaning that the tutor dominates and controls the teaching and learning process. The emphasis was on teaching rather than learning. This metaphor suggests we believe that students are 'empty' and tutor's role is to 'fill' them with knowledge (Stuart, Akyeampong, & Croft, 2009, p.55). Paulo Freire termed this as 'banking' model. This highlights the assumption that tutors can put knowledge into students which can then be brought out for use another day in the same form as it went in, like putting money into a bank for later withdrawal.

So far, little is known about the integration of Critical Thinking pedagogies by teacher educators in teacher education training colleges in Malawi. This study therefore sets out to investigate how teacher educators in Teacher Training Colleges (TTCs) are integrating Critical Thinking pedagogies in the reviewed IPTE curriculum in order to address any challenges facing the implementation of these pedagogies early in the implementation of the curriculum.

1.4 Purpose of the Study.

The aim of this study was to investigate how teacher educators integrate critical thinking pedagogies in teaching the reviewed IPTE curriculum. This study scrutinized teacher educators' practices in the classroom in conjunction with student teachers' tasks in order to address any challenges facing the implementation of these pedagogies in the curriculum. It was hoped that this study will help to contribute to a better understanding of some of the key challenges that Malawian teacher educators in TTCs encounter when integrating critical thinking methods in their colleges. The study then suggests ways in which teacher educators can improve the integration of critical thinking methods.

1.5 Significance of the study.

The significance of a study of this nature cannot be overemphasized. The implementation of a teacher training curriculum affects students' acquisition of knowledge, skills, values and attitudes that they will use as teacher educators. Such that a well implemented curriculum would help to produce knowledgeable, skilled and competent teachers which will improve the quality of basic education which is the basis for quality education for the subsequent education levels of the country. Therefore, it was deemed necessary to conduct this study to find out if the Critical Thinking pedagogies in innovation in the reviewed IPTE curriculum are being implemented as intended in order to find ways of addressing any challenges the teacher educators may be facing in using Critical Thinking pedagogies in training student teachers.

My study aimed to uncover how the Critical Thinking pedagogies are being enacted in diverse classrooms in primary teacher education colleges in Malawi. The findings of the study will be helpful to me as a practicing teacher educator on how to best integrate critical thinking pedagogies in my classroom. The findings of the study will also be helpful to a number of stakeholders. The

findings of the study will inform the Ministry of Education and the Malawi Institute of Education, the extent to which the IPTE curriculum is achieving its intended goals. This will guide the policy makers, especially Ministry of Education and the Malawi Institute of Education, which is the primary teacher education curriculum developer on what interventions should be made in case of failure or success in teacher educators' implementation of Critical Thinking pedagogies.

During the time of this study, the IPTE curriculum has been in implementation for just two years. If the Critical Thinking in the curriculum is not being implemented successfully, it may not be too late to intervene to assist teacher educators implement it effectively.

Apart from assisting the policy makers and the curriculum developers, the findings will also help teacher educators and student-teachers. This is so because the findings would reveal the appropriate measures that could be taken by teacher educators to improve the Critical Thinking classroom practices if the methods are not being implemented successfully. In addition, the findings of the study would be helpful to teacher educators on how to prepare student- teachers to use Critical Thinking methods after their pre-service training.

1.6 Main Research Question.

The main research question of the study is;-

What are teacher educators' critical thinking pedagogical practices in their training of Primary School Teachers?

1.6.1 Sub-Questions.

i. What is the capacity of teacher educators in integrating critical thinking pedagogies effectively?

ii. How are teacher educators integrating critical thinking pedagogies?

iii. What challenges are teacher educators facing in integrating Critical Thinking pedagogies?

1.7 Theoretical Framework.

A Theoretical framework is a system of concepts, assumptions, expectations, and theories that supports and informs a particular research (Maxwell, 1998).

This study is informed by two theories, the theory of the Pedagogy of the Oppressed postulated by one of the well-known Brazilian educator, Paulo Freire, from which Critical Thinking has its roots and the theory of Pedagogical Content Knowledge (PCK) postulated by Shulman (1986).

Freire (2000) argued that pedagogy is the means by which the most oppressed people can be taught to reflect critically on their oppression and actively participate in liberation from it. Freire's notion of pedagogy is of teaching through which the oppressed learner becomes literate and gains the power of self-direction, rather than merely adopting the forms of education offered by the oppressor or, indeed, being filled up like an empty vessel.

Critical thinking has borrowed from Pedagogy of the oppressed the idea of learner-centred teaching. A learner-centred approach refers to 'activities and efforts of teaching and learning that allows for learners' meaningful involvement in a lesson and at the same time are geared towards scaffolding and mediating the learners to meaningfully construct knowledge'(Du Plessis, et al, 2007, p. 42). Scaffolding refers to 'providing temporary, adjustable support for learning' (ibid), while mediation means that 'something comes in between the learner and his/her learning to assist interpret and understand things they learn about' (ibid). The learner-centred approach resembles a constructivist perspective on learning which assumes that learners must construct knowledge in their own mind; teachers cannot simply give learners knowledge. What the teacher can do is to

facilitate this process of knowledge construction by making information meaningful and relevant to students and creating opportunities for students to discover and apply ideas themselves (ibid). Constructivist theories imply that a far more active role is played by learners in their own learning.

The implementation of Critical thinking by teacher educators in teacher education programme depends on a number of factors, the main one however is the teacher educators' Pedagogical Content Knowledge (PCK). The theory of Pedagogical Content Knowledge (PCK) was postulated by Shulman in 1991. Shulman's conceptualization of teachers' Pedagogical Content Knowledge (hereafter referred to as PCK) came about as she wondered about what and how teachers taught. Shulman (1991) asked thought-provoking questions on how teachers gain and use knowledge, and some of the questions were:

How do teachers decide what to teach, how to present it, how to question learners about...? What are the sources of teachers' knowledge? What does a teacher know and when did he or she come to know it? How is new knowledge acquired, old knowledge retrieved and both combined to form a new knowledge base?

She noted that there are two kinds of knowledge, which educators use in their classrooms. These are content knowledge. This refers to the amount of knowledge of the subject matter the teacher is teaching. The second kind of knowledge educators' use in their classrooms is what Shulman called pedagogical knowledge. She observed that this knowledge, '... goes beyond knowledge of subject matter to include subject matter knowledge for teaching. Pedagogical knowledge thus refers to the most useful ways of representing subject matter in a manner that is comprehensible to students. Since, this study is set out to investigate educators' knowledge of the relevant critical thinking methods for specific topics they are teaching, the theory of Pedagogical Content Knowledge

becomes the suitable lens for unearthing the educators' enactment of critical thinking pedagogies in the revised primary teacher education programme.

Summary.

In its attempt to improve the quality of education in Malawi, the Ministry of Education, Science and Technology, through the Malawi Institute of Education has revised the primary teacher education curriculum. The Initial Primary Teacher Education (IPTE) has been reviewed in order to respond to the current needs and developments in education. One of the innovations in the revised IPTE curriculum is the inclusion of critical thinking. This study was undertaken to investigate teacher educators' integration of critical thinking. The study was guided by the theories of the Pedagogy of the Oppressed postulated by Paulo Freire (2000) and the Pedagogical Content Knowledge (PCK) by Shulman (1991). In the next chapter, an in-depth review of the literature on the integration of critical thinking methods in teaching, both locally and internationally, is presented.

CHAPTER 2: LITERATURE REVIEW.

2.1 Introduction.

The previous chapter presented the introduction and background of the study, problem statement and purpose of the study, significance of the study, research questions, theoretical framework, and ended with chapter summary. This chapter therefore provides an overview of the relevant literature on the enactment of critical thinking pedagogies both internationally and locally. The literature is based on the research questions that deal with the experiences and classroom practices of teacher educators regarding the implementation of critical thinking pedagogies in an effort to uphold the requirements of the new IPTE curriculum. The context of this study provides a systematic overview of the issues surrounding teacher educators' training, experiences, and classroom practices.

2.2 Literature Review.

A literature review is an attempt to interpret and synthesize what has been studied, researched and published in an area of interest (Lungu, 2009).

This definition of a literature review will act as a guide in the creation of review of literature in this study. The aim of this piece of research is to investigate teacher educators' implementation of Critical Thinking pedagogies in a new teacher education program in Malawi. Since the study focuses on investigating teacher educators' implementation of an innovation in a new curriculum, the literature therefore firstly discusses the meanings of teacher educator, critical thinking and pedagogy. The review of the literature then delves into discussing the genesis and trajectory of Critical Thinking pedagogies in the Malawi Education system.

The literature will then attempt to review and discuss what the Ministry of Education, Science and Technology in Malawi has described as the characteristics of a Critical thinker in general, characteristics of Critical Thinking Social Sciences Teacher educators, factors to consider when using Critical Thinking methods and strategies in Social Sciences and the Critical Thinking methods for Social Science. Finally, literature will review some studies done on Critical Thinking in other education systems of the world. The aim of reviewing studies in Critical Thinking for other educational systems is for learning lessons on the challenges which other educators from other education systems of other countries have encountered and how they have dealt with the challenges. Such lessons can be utilized to improve the implementation of Critical Thinking pedagogies in Malawi.

A teacher educator is a person who helps other people to acquire the knowledge, competences and attitudes they require to be effective teachers. He or she may be narrowly defined as a higher education professional whose principle activity is the preparation of beginning teachers in colleges (Murray, & Male, 2005, p.p. 125-138). A broader definition might include any professional whose work contributes in some way to the initial education or the continuing professional development of school and other teachers. Thus, effective teaching and learning involves a pact between the teacher and the learner. Murray and Male (2005) observe that, teacher educators are usually faced with a myriad of major tasks in preparing new teachers. These tasks include selecting suitable and effective methods to use in preparing student teachers, motivating student teachers to learn, assessing student teachers' learning, and dealing with individual differences among student `teachers. In addition to these tasks, a teacher educator is also faced with the important task of keeping oneself abreast of current educational developments without which one would become inefficient and ineffective.

According to Kaambakadzanja (2017), critical thinking is one of the current developments in education in terms of emerging effective pedagogies of teaching. It is for this reason that the Ministry of Education reviewed the Teacher Education curriculum in order to include the current developments in pedagogies, the main one being Critical Thinking, which is the focus of this study. As alluded to earlier on, this research is set out to investigate the extent to which teacher educators are integrating Critical Thinking pedagogies which was included in the curriculum by the Ministry of Education, with the aim of improving the quality of teacher training. In the perception of the Ministry of Education, the use of critical thinking pedagogies in the preparation of pre-service teachers is the best solution to the long-term challenges of low quality of teacher education in the teacher education colleges of the country, which consequently also at the end of the day resulted to low quality of education in the primary school.

The Ministry of Education has, in the IPTE curriculum provided guidance to teacher educators on Critical Thinking pedagogies to be employed by teacher educators in order to improve the quality of teacher education. In the teacher education curriculum, the Ministry has firstly attempted to define the meaning of critical thinking and what it involves. Secondly, the Ministry of Education has outlined the factors which teacher educators need to consider when using critical thinking methods and strategies. Thirdly, it has described the critical thinking methods. It is worth in this study considering describing first the IPTE curriculum which forms the context of the Critical Thinking pedagogies which this study sets out to investigate its enactment before considering what the Ministry of Education has provided as meaning of Critical Thinking, what Critical Thinking it involves and the factors which teacher educators need to consider when using Critical Thinking methods and strategies as well as the critical thinking methods.

This study considers a discussion of the revised IPTE curriculum as important for illuminating the contextual background from which Critical Thinking emerged in teacher education.

2.3 The Revised Malawi Initial Primary Teacher Education Programme.

The current Malawi Initial Primary Teacher Education programme is a two year pre-service training that leads to the attainment of a teaching certificate upon successful completion. The program is also called in-in-out-out-in-in programme a departure from the previous one plus one programme. In this case "in" means student-teachers being in college for face-to-face learning and "out" means being at a primary school for teaching practice and one plus one means one year in college and one year in a primary school for teaching practice (Kaambankadzanja, 2017).

According to Kaambankadzanja (2017), the programme was changed from "one plus one" to "in-in-out-out-in-in" to give student teachers opportunities to reflect on their teaching practices and experiences after two terms of being at a teaching practice school. The academic calendar is made up of three terms such that the first two terms are spent in college, two terms at a teaching practice school and two terms in college again. The new TE curriculum is designed as follows: what to be taught (Content 30%), how to be taught (Pedagogical Knowledge 50%) and how to assess student-teachers (Assessment 20%).

Kaambankadzanja (2017) argues that, the revised IPTE programme is also guided by a teacher education philosophy. Participants of the national symposium on teacher education, May 2016, came up with the philosophy of teacher education in Malawi to guide the new curriculum design, materials development and curriculum implementation. The philosophy is to produce a reflective, autonomous, lifelong-learning teacher, able to display moral values and embrace learner's diversity. The next sub-section delve into discussing the definition of Critical Thinking, the

definition of pedagogy, characteristics of a critical thinker, characteristics of Critical Thinking Social Sciences teacher educators, factors to consider when using Critical Thinking methods and strategies in Social Sciences and Critical Thinking methods for Social Sciences as put forward by the Ministry of Education, Science and Technology through the Malawi Institute of Education. The sub-sections will conclude with reviewing some studies done on teacher educators Critical Thinking pedagogies in other educational systems of the world in order to establish a gap to establish the similarities and differences which may exist between teacher educators' experiences in implementing Critical Thinking in other education systems and teacher educators' experiences in implementing critical thinking pedagogies in Malawi. The aim of reviewing studies in Critical Thinking for other educational systems is for learning lessons on the challenges which other educators from other education systems have encountered and how they have dealt with the challenges. Such lessons can be utilized to improve the implementation of Critical Thinking pedagogies in Malawi.

2.4 Definition of Critical Thinking.

In many countries, educational teaching methods are changing from the traditional teacher-centred approach where knowledge is transmitted to the learners who passively listen and acquire new knowledge, to a constructivist approach where knowledge is constructed or generated by learners. The constructivist approach to teaching and learning entails an active, mental process of development where the learners are actively involved in their learning (Kaambankadzanja, 2017). Thus, constructivist teaching is based on the belief that learners are the makers of meaning and knowledge. Constructivist teaching fosters critical thinking and creates motivated and independent learners. Therefore, a constructivist teacher sees critical thinking at the heart of the teaching and learning process. A constructivist approach challenges teachers to create environments in which

they and their learners are encouraged to think and explore. Critical thinking pedagogies therefore support the idea that the learner, as an active meaning-maker and problem solver, is central to the learning process and that learning takes place in the context of social interaction between the teacher, the learner and others (Mortimore, 1999, p. 196).

The inclusion of critical thinking pedagogies in the IPTE curriculum can be considered as a move at the right time as evidenced by sentiments raised by some development partners in education in Malawi. For example, Open Society Initiative for Southern Africa has bemoaned that, "there seems to be no clear strategies in place in Malawi education system to promote critical thinking (OSISA, 2011 p.2), yet the country is open to increasing inflows of new knowledge and technologies. Teachers need to ensure that the classroom climate they create enables children to be both learners and thinkers.

In terms of definition of Critical thinking, it is worth acknowledging the fact that Critical Thinking is a contested notion and has been defined differently by different scholars. Because of its complexity, no one authority has been able to provide a universally acceptable definition. For instance, Fisher (2006) and Sasson (2007) contend that creative thinking is a process that permits one to think without restrictions. Critical thinking is thus purposeful, reasoned and goal-directed and is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods and making decisions (Cottrell, 2005; Fareed & Waghid, 2005; Rudinow & Barry, 2008). That is, critical thinking can be seen as the ability to think rationally where rationality requires analyzing all known evidence and not leaving something out because one does not like it. That is, the contemporary world requires people who can think around the box and find possible solutions to the problem on the ground.

Hove (2011) stipulates that, the central idea of critical thinking skills depend heavily on formal learning and therefore schools are critical instruments for advancing critical thinking amongst learners. He argues that much of what it takes to develop critical thinking comes from a skilled teacher. This process can also be referred to as brain storming that searches for alternatives. This can make new things possible in new ways. Critical thinking can be viewed as the ability to apply reasoning and logic to unfamiliar ideas/opinions and situations, which involves seeing things in an open-minded way by using cognitive skills or strategies that increase the probability of a desirable outcome.

The concept 'Pedagogy' is an umbrella term to describe teaching and learning methods together with the rationale behind them. There are at least two sets of good reasons for paying great attention to pedagogy in teacher education. Firstly, we want our students to learn effectively. Lastly, as teacher educators are modelling good practice for the student teachers, so they can implement similar methods in their future classroom (Stuart, Akyeampong, & Croft, 2009, p.54). This implies that, in the teacher education classroom, the roles of tutor and students should, ideally, be complementary. Both educators and student teachers should be actively engaged. The next sub-section delves into considering the history of Critical Thinking in Malawi.

2.5 Background of Critical Thinking in Malawi.

Critical thinking has been in existence for a long time right from the period of Socrates through the times of Rene Descartes, Isaac Newton, John Dewey and Jean Piaget just to mention a few. In the 1960s, critical thinking was promoted through the work of Robert Ennis. In recent times, Vincent Ruggiero's work on critical thinking has helped to shape the understanding of critical thinking and its place in education and workplace in 21st century (Ruggiero, 2012).

Although critical thinking concepts are not entirely new in the Malawi's curricula, especially in subjects such as Social studies and Life skills where concepts and skills of problem solving and decision making are emphasized, the current approach makes it more elaborate and more focused as it aims at transforming the education outcomes. Malawi Government has made efforts to improve education quality through reviews of curricula. Many initiatives are incorporated aiming at addressing contemporary issues and make the curriculum relevant to the needs of the 21st century learner. However, most of the reviews have not managed to create democratic classroom processes that help learners to develop independent and open minds (Kaambankadzanja, 2017). Students are still not trained to think, analyze information and relate it to the context in which they live so that they can fit in the rapidly changing context of Malawi, and the world.

Kaambankadzanja (2017) further argues that, the main goal of critical thinking in Malawi is to improve education outcomes by building the capacity of educational professionals to advance the integration of the concept of critical thinking in the education system through integrating critical thinking concepts into teacher training, secondary and primary school curricula and their training materials, as well as to integrate critical thinking concepts and stimulate the Malawi National Examination Board (MANEB) to begin applying critical thinking concepts in assessment. It is the conviction of the Ministry of Education and Malawi Institute of Education that critical thinking is considered as a professional development programme for teachers that introduce research-based, instructional methods, to help students think reflectively, take ownership of their personal learning, understand the logic of arguments, listen attentively, debate confidently and become independent life-long learners.

The Malawi critical thinking is modelled on the approach by the Reading and Writing for Critical Thinking (RWCT) consortium. Malawi was invited to the Critical Thinking international consortium in Turkey where critical thinking concept was proven to be used in various disciplines such as health, engineering, law and education among many others. Malawi got interested in the critical thinking approach presented and therefore sought financial support from Open Society Initiative for Southern Africa to begin rolling out activities of critical thinking (Kaambankadzanja, 2017). The RWCT team facilitated the trainings in Malawi during the first five years, from 2010 to 2014. Malawi needed such support of facilitators as a model and as a way of building local capacity. During this period, facilitators were those certified by RWCT and were drawn from Romania, Czech Republic, Liberia and Zambia.

2.6 Significance of Critical Thinking in the Context of Malawi's History.

Malawi, then called Nyasaland was a British colony from 1891 to 1964. Formal education was introduced in the country by European missionaries in 1875. Although the education which was provided by the missionaries was largely reflective of the ideologies of the different missionaries, however, there were some common aims among all the missionary educators. Schools were established to provide literacy and basic industrial training. Teaching reading was the main objective in order to allow the people to read the Bible and, where possible, to preach the 'Good News' to others. Besides evangelization, industrial training was provided, not with the aim of economic empowerment in mind, but with the principle that "Christianity and idleness were incompatible". The education provided by the mission stations had other unintended consequences. One of them was the rise of nationalist sentiments which were observed by educated Africans who had travelled outside the country and interacted with people from other regions (Kaambakadzanja, 2017).

In 1926, the government of Nyasaland stepped in and took control of education. The aim of the government was to create a uniform system of education. Whilst the introduction of department of education increased access to education by most Malawians, the education provided by the government was criticized for not promoting individual initiative, creativity and independent thinking. It can therefore be argued that missionaries initiated Western type of education which was focused on ensuring that Africans could read, write, and count. Efforts were also made to provide them with skills to live productive lives. According to Kaambankadzanja (2017), these efforts however occupied the minds of the providers of education to the exclusion of issues of critical thinking. Although education was meant to train Africans into productive individuals, the education's curriculum however did not promote any form of dissenting views or ideas to the Western and Christian views.

Malawi attained independence in 1964. In terms of education, the citizens were educated to suit the constitution of the political dispensation of the time. The government and the single party system of the day emphasized on citizens keeping 'Four Corner Stones' namely: Unity, Loyalty, Obedience and Discipline.' These four cornerstones found their way into the classroom. Though unplanned, the four cornerstones stuck into the minds of the learners where the learners thought that providing alternative ideas to a teacher's idea in the classroom during the teaching and learning process would be considered as lack of obedience and discipline. The teaching and learning processes therefore consequently did not promote critical thinking (Kaambankadzanja, 2017).

In 1994, Malawi went through a political transition from one-party dictatorship to a multi-party government. Following a long period of dictatorship, Malawi needed to have citizens who would act rationally to protect the hard won democracy. "Democracy is sustained by the agency of the critical and creative citizen, not the conformist citizen (Namphande, 2000, p. 5). Democracy also

brought other challenges which needed to be kept under control. The new multiparty system brought with it issues of ethnicity. For example, the major parties to contest in the general election in 1994 came from the three regions of the country and consequently had much support from where the leaders came from. This brought divisions in the country.

It was therefore imperative that the education system be reformed so that it would be relevant to the needs and challenges of democratic Malawi. Education was therefore envisaged to be the right vehicle through which political transformation agenda would be accomplished. It is against this background of the political trajectory of the country which has been characterised by extreme swinging of the pendulum from suppression of critical thinking in the missionaries as well as colonial governments education systems to misunderstanding of democracy that necessitates critical thinking pedagogy in the Malawi classrooms as a possible panacea for producing citizens who can act rationally in the country.

2.7 How Critical Thinking Promotes Quality Education.

One of the significant aims of education is to produce learners who are well informed, that is to say, learners who should understand ideas that are important and useful. The other aim of education is to create or produce learners who have the appetite to think analytically and critically that is to say to produce learners who are able to use what they know to enhance their own lives and also to contribute to their society, culture and civilization (MIE, 2018).

Critical Thinking is an important tool for promoting quality education in that it meets the two significant aims of education stated above. The aim of Critical Thinking is to promote independent thinking, personal autonomy and reasoned judgment. Critical thinking involves logic as well as creativity. It involves reasoning, analysis and problem-solving as well as creative and innovative

approaches to resolving issues and challenges. Currently, in many countries, to improve the quality of education, educational teaching methods are changing from the traditional teacher-centred approach where knowledge is transmitted to the learners who passively listen to acquire new knowledge, to constructivist approach where knowledge is constructed or generated by learners (Susuwele-Banda, 2017).

According to Malawi Institute of Education (2018), critical thinking methods promote constructivism in the teaching and learning process. A constructivist approach to teaching and learning challenges teachers to create environments in which they and their learners are encouraged to think and explore. Constructivism is based on the premise that teaching and learning are active processes in which existing knowledge is analyzed and evaluated, and new knowledge is created through interactions between teacher and learners in the classroom. The following are some of the constructivism features of Critical thinking which promote quality education**:**

2.7.1 Creative Questioning.

Kaambankadzanja (2017) argues that, it is human nature to want to know. According to Kaambankadzanja (2017), human beings who are critical thinkers seek answers all the time through asking questions. The effective teacher, not only asks higher order questions, but also allows students to ask questions, then encourages them to find answers for themselves. Such teachers believe that students are not empty vessels or tabula rasa (blank slates) which they, as the experts, are employed to fill with knowledge. Asking students to discover facts or find solutions for themselves is what promotes the quality of teaching and learning.

2.7.2 Sharing Ideas/Results.

Kaambankadzanja (2017) stipulates that, critical thinking is also considered as social thinking. In nature, ideas are tested and improved as they are shared with others. As people discuss, debate, disagree, cross-comment, and come up with an agreed list of ideas, they engage in a process of refining their own ideas or positions. Teachers who seek to promote critical thinking therefore encourage dialogue and sharing of ideas, and such teachers use methods such as group discussion, brainstorming, think-pair-share, talk-around, reporting, collaborative or cooperative learning where learners work together to solve a problem. Such learner-centred methods promoted by critical thinking improve the quality of education.

2.7.3 Reasoned Arguments.

According to Malawi Institute of Education (2013), critical thinking helps learners to develop reasoned argument skills. Critical thinking makes learners not only to find their own solutions to problems posed in the classroom by their teacher, but also to support those solutions with good arguments and convincing reasons. Critical thinking equips learners with the skill of recognizing that a problem may have more than one solution. This makes learners to strive to show why certain solutions are the best compared to others. To do this, learners formulate a claim (which becomes the main idea or thesis). The claim is supported by a number of reasons. Each reason is in turn supported by evidence.

2.7.4 Independent Opinion.

Critical thinking involves independent thinking where each individual thinks for himself or herself, forming his or her own ideas, values and beliefs. In Critical thinking, no person can think critically for another. This is why teachers who want to promote critical thinking need to ensure that each

learner has opportunities to think deeply about available information and offer his/her own opinion. This makes the learners to "think outside the box" (Malawi Institute of Education, 2013).

2.7.5 Thoughtful Judgement.

Malawi Institute of Education (2013) observes that, critical thinking involves attentive listening to all sides of a dispute, considering all the facts, and then deciding what is relevant and what is not. This promotes teaching and learning of knowledge which is "truth" rather speculation or guessing. Education is about teaching knowledge which has evidence as being the "truth". Critical thinking enables teachers to strive to provide opportunities for students to arrive at a solution to a problem by encouraging them to collect data relating to the problem, analyzing it and drawing conclusions and recommendations based on the findings.

2.7. 6 Evidence Testing.

According to Malawi Institute of Education (2013), evidence testing means verifying the generalizations or conclusions made. This involves checking information or facts rather than accepting them at face value. This is necessary because much of what people consider as evidence may have no grain of truth in it.

2.7. 7 Active and Careful Consideration.

Critical thinking makes individual learners to examine ideas, information or situations, raise questions, identify gaps and anomalies in information and to find relevant information rather than receiving ideas and information passively. This implies that critical thinking helps learners to engage persistently in reflecting on an issue, idea or information rather than thoughtless jumping to a conclusion or decision (Malawi Institute of Education, 2013; Kaambankadzanja, 2017).

2.8 THE BIRTH AND GROWTH OF CRITICAL THINKING IN MALAWI.

2.8.1 Milestones of Critical thinking in Malawi.

It has been eight years since the Malawi's Ministry of Education, Science and Technology approved the process of integrating critical thinking in the national school curricula as a pedagogical innovation. Several milestones are notable since then (Malawi Institute of Education, 2013). The following are some of the significant ones: training of a critical mass in critical thinking to mainstream the critical thinking in their institutions; production of teaching and learning resources which include critical thinking sourcebooks, facilitators guide, training manuals and videos on best critical thinking classroom practices; and integration of critical thinking approaches in the education curricula and instructional materials.

2.8.2 Mass training of Critical thinking educators.

The training of a team of experts in critical thinking was one strategy towards ensuring that critical thinking gets institutionalized at different levels of the education system in Malawi. Besides providing a general critical thinking orientation to different people at the inception of the programme such as education methods advisors, curriculum specialists, examinations officers, teacher trainers, publishers of educational materials, and members of the media houses, there was need to have a group of educators who would train teacher educators and teachers and other personnel at different levels (Kaambakadzanja, 2017). Educators were therefore to undergo a four phase training course facilitated by international critical thinking team certified by Reading and Writing for Critical Thinking Consortium (RWCT). A local team of 42 educators was identified whose membership comprised two to four primary teacher trainers from each of the twelve primary teacher training colleges, both public and private that were operational in 2012. The choice of

primary teacher trainers was strategic to prepare teachers at pre-service level to familiarize with critical thinking methods.

The second group was a team of secondary school educators from Domasi College of Education and Chancellor College from the Faculty of Education. Three educators from each of these institutions were part of this team. The third group was from the Malawi Institute of Education which had three members on that team. Malawi Institute of Education coordinates these trainings and is responsible for curriculum reviews for primary, secondary and primary teacher training. Therefore inclusion of Malawi Institute of Education officers at this level was also strategic, to ensure that critical thinking methods get into curricula and instructional materials at various levels of education in Malawi (Kaambakadzanja, 2017). Out of this team, 36 educators were certified with international certificate in critical thinking by the Reading and Writing for Critical Thinking Consortium. In addition to the 36 certified educators, Malawi Institute of Education has continued to coordinate and certify more educators in critical thinking. In 2015, 98 teachers with best teaching practices were identified through a mapping exercise in three districts of Mzimba South, Lilongwe and Machinga to identify teachers from primary, secondary and primary teacher training colleges who are using best teaching practices before exposed to critical thinking pedagogies (Kaambakadzanja, 2017). The main aim of the study was to identify good teaching practices that effectively promote critical thinking and contextualize the practices in the broader education landscape.

Out of the 98 educators, 78 educators were certified as critical thinking facilitators. They were first trained at MIE in critical thinking methods and developed action plans to implement in their schools and clusters. These educators were monitored in their schools by critical thinking facilitators before being certified. Part of their action plans was to train other teachers in their

schools and clusters in critical thinking methods. As a result of such trainings, another group of by-products has emerged which was trained by teachers with best teaching practices who have become certified in critical thinking. Some of the by-product critical thinking teachers were invited to MIE for more training in critical thinking (Kaambakadzanja, 2017; Susuwele-Banda, 2017). They are now implementing action plans they developed while being trained in critical thinking at MIE and will be monitored for support before another level of training and certification.

2.8.3 Production of a set of Critical thinking teaching and learning resources.

Various teaching and learning critical thinking resources were produced in the form of sourcebooks, facilitators' guides, and training manuals as well as a set of videos on some of the critical thinking methods. These were made available to all teacher training institutions such as all primary teacher training colleges. The content for the Malawi critical thinking sourcebooks was among others, drawn from the 'Teaching and Learning strategies for the thinking classroom' (Crawford, et al, 2005). This book is one of the productions by the Reading and Writing for Critical Thinking Consortium from which the Malawian critical thinking was modelled. One key document that Malawi has been produced is called 'Critical Thinking Sourcebook for Malawi' (MIE, 2013). Besides featuring critical thinking methods, the book presents critical thinking assessment, active learning approaches, as well as Malawian indigenous knowledge systems that promote critical thinking. Other critical thinking sourcebooks that have been produced are for subject specific for science, mathematics, languages and humanities. Although the initial approach to critical thinking was generic where educators were trained in all critical thinking methods and allow them to apply within their subject areas, there were demands from some teachers who still wanted to be guided on how some of the critical thinking approaches could be applied within their subject disciplines, hence these four subject specific critical thinking sourcebooks.

2.8.4 Integration of Critical thinking into the national curricula.

One sustainable way to mainstream critical thinking into the education system was to target curricula reviews and instructional materials. The Ministry of Education, Science and Technology through Malawi Institute of Education has taken advantage of the curriculum cycles to integrate critical thinking methods into the mainstream curriculum. The secondary school curriculum was reviewed from 2014 to 2017 and critical thinking approaches have been integrated into the curriculum (Kaambankadzanja, 2017). Similarly, the primary teacher education curriculum has been going a review process from 2015 and critical thinking has been integrated into the curriculum. Primary school curriculum is yet to be reviewed but critical thinking is being integrated in all materials that are being revised such as the National Reading Programme (NRP).

2.8.5 Critical thinking methods for teaching Social Sciences.

The Ministry of Education, Science and Technology (2013) has suggested the following Critical Thinking methods for teaching Social Sciences.

2.8.5.1 Exposition methods.

According to Ministry of Education, Science and Technology (2013), exposition are teaching strategies that aim at introducing new information to student teachers. They help to build lessons based on students' "known to unknown" and assessing what student teachers already know and developing those to introduce new information/ knowledge. The following are examples of exposition methods prescribed by the Ministry of Education, Science and Technology.

2.8.5.2 Structured overview.

It is a summary of a topic that highlights key concepts and is meant to arouse learners' curiosity. Usually given at the beginning of a lesson and comes in the form of a lecture. This method is

particularly used when learners' previous knowledge on the topic is minimal, and is useful in promoting critical thinking in Social Sciences because it affords learners the opportunity to link concepts and information in building new knowledge (Ministry of Education, Science and Technology, 2013).

2.8.5.3 Brainstorming.

This is another exposition method in which learners think and suggest ideas about a topic. Encouraging a pool of ideas to flow in a classroom requires the participation of the majority of learners, hence the need to make learners feel free to open up and give their own ideas. A great feature of brainstorming is that there is no wrong answer and therefore no excuse for non-participation. Brainstorming is consistent with social thinking, an important component of critical thinking. As ideas are shared with others, they go through a process of refinement with others building on, deducting from and reformulating to make them more robust (Ministry of Education, Science and Technology, 2013). Thus, brainstorming is a very popular method in the Social Science subjects because it can be used for most of the topics. It is particularly suitable for topics in which learners have prior experience or knowledge that can be shared. While its use is not restricted to a particular stage of a lesson, it proves very suitable for an introductory phase.

2.8.5.4 Know-Want to Know-Learn (K-W-L).

According to Ministry of Education, Science and Technology (2013), Know-Want to Know-Learn is a method that is particularly useful for guiding learners in reading and understanding of a text. This method is best utilized in teaching Social Science topics about which learners have limited knowledge. The method is particularly useful in situations where teacher educators want to erode misconceptions, stereotypes and misrepresentations. Teachers can use this method during one

lesson or several lessons. The following are the steps in the implementation of the method. Firstly, the teacher educator introduces a topic and asks learners to brainstorm anything they know about the topic. Secondly, the teacher educator asks student teachers to what else they want to know from the topic.

Another point worthy noting is that, the teacher educator facilitates a lesson, factoring in what the student teachers want to know. The teacher educator asks student teachers to acknowledge what they have learnt at the end of the lesson or unit on the topic. According to Ministry of Education, Science and Technology (2013), the Know-Want to Know-Learn method is useful in developing critical thinking for two reasons. First, learners are kept active as they think about what they know and ask vital questions about what they do not know. Additionally, the method encourages learner reflection and curiosity to verify whether their deficiencies on the topic mentioned earlier are being addressed. Through Know-Want to know-Learn method, learners develop their investigative skills.

2.8.5.5 Instructional Note-Taking System for Enhanced Reading and Thinking (INSERT).

According to the Ministry of Education, Science and Technology (2013), Instructional Note-Taking System for Enhanced Reading and Thinking **(**INSERT) is a teaching strategy that provides a system of simple symbols which are used by learners to note their responses and help them construct personal meaning from the text. It is mainly used at the building knowledge phase of a lesson. It develops learners' investigative, interpretive and evaluation skills; hence, it can be a great tool for critical thinking.

INSERT can be utilized in Social Sciences for topics that involve some reading. Topics that are historical in nature like the Independence of Malawi or Slave Trade in West Africa could utilize INSERT. In Bible Knowledge and Religious Education, reading of a scriptural passage could utilize INSERT (Ibid.). Although the method could be employed anytime during the lesson but is particularly useful as homework because learners will have enough time to read, process and make the needed markings. Teachers could even use it prior to a scheduled lesson in order to assess learners' difficulties coming into the lesson. INSERT uses four different marks. These are:

- ✓ A checkmark, signaling that what learners are reading confirms what they knew or thought they knew.
- \- Minus, signaling that what learners are reading contradicts or is different from what they already knew or thought they knew.

\+ A plus, signaling that the piece of information a learner encounters is new.

? A question mark, signaling that information is confusing to the learner or that there is something the learner would like to know more about.

2.9 Co-operative learning methods.

According to Ministry of Education, Science and Technology (2013), Co-operative learning methods require learners to work together on a particular task. By doing so, the learners generate many ideas, share them and modify them before presenting to other members of the class. The Ministry of Education, Science and Technology (2013) have stipulated the following as examples include the following;

2.9.1 Mix/Freeze/ Pair (MFP).

According to the Ministry of Education, Science and Technology (2013), Mix/Freeze and Pair is a lively means of having learners work with new partners to complete a closely-defined task. The method is used where the teacher educator wants to build social skills among student teachers in class and break the practice of using the same groups all the time. According to the Ministry of Education, Science and Technology (2013), the following are the guidelines for using the method effectively. Firstly, the method requires a minimum of six and maximum of sixty persons. Secondly, the method should be done quickly in two to five minutes. Thirdly, the teacher educator should think of a question or series of questions ahead of time. The other factor is that a teacher educator should give directions ahead of time, to avoid chaos.

The teacher educator should tell the student teachers that when the signal is given, they are to get up and move around the room. When the teacher educator says "freeze," they should stop and pair up with the person closest to them. Furthermore, the teacher educator gives the signal, and allows for one minute for student teachers to move around the room and then tells them to freeze and then communicates to them the task. Lastly, the teacher educator gives the student teachers a fixed amount of time to accomplish their task. Then, the student teachers are asked to go back to their seats. According to the Ministry, Mix, Freeze and Pair is a powerful methodology in Social Science subject's classroom in the sense that it promotes cooperativeness, which is a key value in Life Skills, Social and Environmental Studies, Religious Education and Bible Knowledge. It also develops self-regulation skills by encouraging learners to share ideas within a short period of time (Ministry of Education, Science and Technology, 2013).

2.9.2 Paired Reading/ Paired Summarizing.

Paired reading and paired summarized is a technique for peer teaching and learning. Student teachers are divided into pairs and asked to read a text closely for understanding. Student teachers take turns reading and summarizing a text while the other member listens and asks questions. Pairs can have the same reading ability or can include a more fluent reader with a less fluent reader. Paired reading/summarizing keeps student teachers active and helps them understand difficult texts. This method is particularly suited for subjects with texts to read for example, History topics in Social and Environmental Studies and Bible Knowledge could utilize paired reading/ summarizing. The method develops student teachers' investigative and communication skills, making it a good tool to promote critical thinking (MoEST, 2013).

2.9.3 Jigsaw.

According to the Ministry of Education, Science and Technology (2013), jigsaw is a strategy that enables learners to master one aspect of a unit and share with colleagues. In a jigsaw, the class is divided into several teams, with each team preparing separate but related assignments. When all team members are prepared, the class is divided into mixed groups, with one member from each team in each group. Each person in each group teaches the rest of the group what he/she knows, and the group then tackles an assignment together that pulls all of the pieces together to form the full picture, hence the name jigsaw.

As learners work together and interact with members from both home and expert groups, they learn social skills. According to the Ministry of Education, Science and Technology (2013), the following are the steps which teacher educators need to follow in order to use jigsaw critical thinking method effectively. Firstly, teacher educator prepares expert sheets, made up of groups of questions based on the material to be learnt. The number of questions should be equal to the

number of expert groups (ideally four to five). Secondly, the teacher educator assigns student teachers to home groups of four to five members.

According to Ministry of Education, Science and Technology (2013), the group should be well balanced in terms of gender and abilities of members. For best results, these home groups should be kept together beyond one jigsaw as the longer they work together, the more they become loyal and take responsibility for each other. Thirdly, the teacher educator gives a warm-up exercise for each of the groups to make them relax together. An example could be to develop their own "team cheer". The teacher educator then assigns student teachers to expert and shares questions. Expert groups could be generated by using a "count off" technique and then regrouping learners based on their numbers. Each expert group is given a part of the content to focus on and prepare to teach others based on the study questions assigned. Fifthly, the expert groups prepare to teach their portion of the lesson or questions.

Student teachers regroup to their home groups and teach their portions of the lesson to the other group members. During these steps, the teacher educator goes around to observe and provide clarifications to the student teachers as needed. Seventhly, the teacher educator evaluates the process by asking student teachers to share what they have contributed to the discussion. According to the Ministry of Education, Science and Technology (2013), jigsaw is a powerful method for the Social Science subjects and can be applied to topics that learners have some familiarity with already. While jigsaw is particularly well suited for topics involving texts, it could be extended to include other learning materials such as documentaries, movies and audio.

2.9.4 Paired Brainstorming.

According to Ministry of Education, Science and Technology (2013), paired brainstorming is a modified form of the brainstorming method in which learners generate ideas on a topic and share them with partners before presenting them to the class as a whole. Besides its value in developing cooperativeness among learners, paired brainstorming also develops imaginative and flexible thinking among learners. According to the Ministry, the following are the steps which teacher educators need to follow to use paired brainstorming critical thinking method effectively. Firstly, the student teacher introduces the concept of brainstorming to the whole class. Secondly, the student teacher introduces the topic or problem very clearly. Thirdly, the student teachers are given a time limit to solve the problem. Furthermore, the student teachers share their ideas with their paired partners, and the teacher educator encourages them to share any idea, no matter how odd, that is related to the problem. The teacher educator instructs student teachers to build on each other's ideas. Finally, the student teacher writes the ideas from the pairs on the board.

Ministry of Education, Science and Technology (2013) contends that, in teaching Social Science subjects, paired brainstorming can be used for almost all topics. Even for topics where student teachers either demonstrate limited or no knowledge, paired brainstorming could be used to stimulate their thoughts about the connection of the topic to real life. For example, student teachers could be asked to brainstorm the possible meaning of the solar system since they might have heard the term "solar" in relation to energy. The Ministry adds that, paired brainstorming can be used anytime during a lesson, but it is particularly powerful for the introductory stages when it can be used to arouse curiosity and interest.

2.9.5 One Stay-Three Stray.

According to Ministry of Education, Science and Technology (2013), one stay-three stray is a cooperative learning method that offers opportunities for learners to discuss or solve a problem and share their ideas with their colleagues in other groups. This method is an effective way of disseminating ideas between student teachers within a shorter time period. It also proves very useful as a closing activity so that student teachers can synthesize the main points of the lesson. The following are the steps which teacher educators need to follow in order to use the one stay-three stay method effectively. Firstly, teacher educators create groups with four members each. Secondly, teacher educator assigns a task to the groups. Secondly, each group discusses or solves the problem assigned. Then, three members from each group "stray" by going to the next three groups to brief the remaining members on the findings of their original group. According to the Ministry of Education, Science and Technology (2013), in order to get all student teachers actively involved in their original groups, it is important that those who will be reporting out (straying) do not know who they are until the last minute.

The Ministry of Education, Science and Technology (2013) contends that the benefit of one stay-three stray is that it enables learners to exchange ideas and build social skills such as asking probing questions. It also offers learners the opportunity to learn by teaching others. By placing the report-out responsibility on the learners, it reinforces the valuable conception that knowledge resides within the learning community, not just with an authority-figure. Depending on the teaching and class size, this teaching strategy can be modified into two-stay-two-stray or one-stray-three stay. The level of complexity in the use of the method rises with every increase in the number of learners straying.

2.9.6 Academic Controversy.

Engaging in academic controversy is the act of arguing from both positive and negative perspectives. In teaching, teachers can apply academic controversy as a method, leading learners to argue an issue from different angles before passing a judgememt. According to Ministry of Education, Science and Technology (2013), the teacher educators need to follow the following steps for them to use academic controversy effectively. Firstly, a teacher educator assigns the student teachers to groups of four and gives them a Yes/No question to discuss. Secondly, the student teachers discuss the question in groups of four. The teacher educator counts off the learners as one, two, three and four and makes the ones and the twos argue for a "Yes" and the threes and the fours for "No".

The other step is that, student teachers in pairs go off by themselves and spend five minutes listing reasons to support their position. After five minutes, student teachers in their pairs go to find other pairs with the same position to discuss and add to their list any reasons they had not thought of on their own. Student teachers return to their home groups and prepare to debate the opposing pairs with their strongest points. After some minutes of debate, student teachers drop their positions and argue for a position they truly believe in. The teacher educator then calls on each group to give a statement of the group's conclusion from the debate. According to the Ministry of Education, Science and Technology (2013), academic controversy is a valuable method because of its ability to make learners argue based on facts and also because it considers all sides in an argument before a person makes a decision. It provides higher-order critical thinking skills such as interpretation and synthesis. Social Science subjects can utilize this method either at the start of the new topic or use it as a review for a topic that has been taught before. It is particularly suited for questions for which no consensus can be reached and hence deemed controversial.

2.10 Self-Expression Methods.

According to Ministry of Education, Science and Technology (2013), self-expression method provides learners with an opportunity to communicate, with fairness and integrity, how they think and feel without being accusatory, judgmental and abusive. The following are the Self-expression methods.

2.10.1 Role Play.

Role play is a method in which learners assume particular personalities depicted in a situation and act accordingly. While role play is often used interchangeably with simulation, there is a slight difference in authenticity of roles taken by learners in the role play. In role play, according to the Ministry of Education, Science and Technology (2013), learners act out roles that they do not play in real life and this, in part, allows them to experience and appreciate the position and feeling of others while acting their roles. Teacher educator's functions in role play are: firstly, set the situation for the role play. Secondly, design the scenario. Thirdly, make factual inquiries and assigning roles.

According to MoEST (2013), to effectively utilize role play in the promotion of critical thinking, teacher educators should hold debriefing sessions afterwards to discuss the performance. Such discussions are a good opportunity for teacher educators to highlight key issues and also to invite learners to comment as they try to create new meaning out of the performance and topic. This will promote analysis, evaluation, explanation and interpretation skills. Without such sessions, role play could be reduced to an entertaining activity and would be less educative.

2.10.2 Drama.

According to Ministry of Education, Science and Technology (2013), drama is similar in its characteristics to role play. The only difference is that drama demands more preparation. Learners are given scripts to prepare for their roles prior to the performance. Drama enables learners to communicate effectively and to promote their self-regulation and explanation skills, which are important for critical thinking. When teaching Social Science subjects, teacher educators may employ drama for lessons on decision-making and problem-solving, guiding learners to dramatize traditional problems solved by communities. For example, instead of a teacher educator lecturing student teachers on income generating activities, for example, teachers could utilize a dramatization of a market.

2.10.3 Save the Last Word for Me.

Save the last word for me is utilized in classrooms to help learners comment or raise issues from a text. Save the last word for me is unique in its ability to get more quiet and more reluctant learners to participate in class. After reading a passage, a teacher educator instructs student teachers to identify an interesting issue from the text and write their comments down. A student teacher is then called upon to share what s/he has written down and invites others by mentioning their names to comment on the issue. As the name suggests, the last comment is saved for the person who identified the issue. This method is most appropriate for topics in the Social Sciences that require some reading. Other variations of Save the last word for me method include film watching and using images. Opportunities given to learners to think about their reading/ images enable them to reflect, a crucial skill in critical thinking (MoEST, 2013).

2.10.4 Debate.

Debate is a popular method of teaching in which learners defend their position on a two-sided issue about which there are strong opinions. According to Ministry of Education, Science and Technology (2013), questions that elicit a yes or no response are suitable for debates. To start a debate, the teacher poses a question and learners take one of the two sides of possible responses to the question and develop arguments to support their position. Social Sciences are particularly suitable for the debate method because of the potential of lessons to raise controversy. To develop critical thinking skills using debate method, it must be well organized and done effectively. The power of debate to stimulate critical thinking lies in its ability to promote the spirit of using ideas to defend a point without attacking people. It offers dialogue as solution to controversy and encourages people to work together. It also requires people to make reasonable arguments, which helps develop skills in interpretation, learners' self-regulation or management, investigation and explanation.

2.10.5 Value Line.

According to Ministry of Education, Science and Technology (2013), besides debates, issues to which there is a varied degree of agreement and disagreement can employ the value line method. When issues for which opinions vary come up in class, teachers can ask learners to take positions on an imaginary line between two extreme positions. Learners with two opposing positions take their place as the two extreme points such as the two corners of the classroom. The imaginary line between them is filled by learners based on the side of the issue to which they closely associate. Learners take turns to justify their positions and advance reasons for their stance.

The teacher educator needs to follow the following steps in order to use Value line critical thinking methodology effectively. Firstly, a teacher poses a question with a yes or no answer options. Another point is that, student teachers consider the question and makes a choice of answer with a supportive reason. In some situations, learners could write down their reasons. Furthermore, two learners with extremely contrasting positions stand at opposing ends of the classroom with an imaginary line between them. Other learners are also invited to take positions on the imaginary line depending on which side of the argument they support. Learners are invited to share reasons for positions on the continuum. Lastly, unlike debates, learners are allowed to change positions upon hearing others defend the choice of their position.

According to Ministry of Education, Science and Technology (2013), the power of the value line in promoting critical thinking is the ability it affords learners to experience a demonstration of their thoughts within a physical space. Value line can also help in the development of critical thinking because learners justifying their positions are required to use analytical, interpretation and explanation skills. Its additional value of making people work together also promotes learners' social skills. Learners' ability to change their minds and relocate on the continuum helps in their analytical skill development.

When teaching Social Science subjects, the value line method is usable in teaching almost all topics and could be combined with other methods. According to the Ministry of Education, Science and Technology (2013), while a teacher educator might not initially plan on using this method, circumstances in the classroom could necessitate its introduction if an issue is raised for which two contrasting positions are evident among the learners. Such situations are always great opportunities to introduce the value line.

2.11 Research Methods.

According to Ministry of Education, Science and Technology (2013), although largely identified with the physical sciences, research methods can be the powerful tools in increasing learner engagement and stimulate their critical thinking. These methods engage learners into a process of inquiry in order to discover facts, review a theory or develop a plan of action based on the facts discovered. Using research methods in teaching provides immense support to the development of critical thinking because research originates from curiosity, which is in itself an investigative skill. By using research methods in teaching, teacher educators are helping learners to identify societal problems and finding possible ways to solve them. This will happen alongside developing learners' sense of questioning and the need to investigate and find answers to themselves. The following are the research methods which promote critical thinking.

2.11.1 Service Learning.

Service learning may not always involve research, but it can when learners seek out organizations working on important social problems and investigate the ways they are trying to address them. "Service learning should include a cycle of action and reflection as learners work with others through a process of applying what they are learning to community problems. The Ministry contends that it is also important that they learn to reflect upon their experience as they seek to achieve real objectives for the community and deeper understanding for themselves (MoEST, 2013, p.16). Since Social Science subjects aim to teach for life, one of the best ways to learn about life is through participation in activities such as those of service learning organizations.

Ministry of Education, Science and Technology (2013) stipulates that, it is important to clarify that service learning is not volunteerism, community service, internship or field education. The contrast lies in the emphasis provided for either the service or the learning goals. While volunteerism and community service aim at providing service to the community, internship and field education put stronger emphasis on the learning. Service learning is a balance between service and learning, providing equal effort to make both sides reinforced. According to the Ministry of Education, Science and Technology (2013), the following are the steps which teacher educators need to take in order to use service learning effectively.

2.11.2 Preparing and Designing.

Effective service learning that will promote critical thinking needs careful planning and preparation (MoEST, 2013). Teacher educators should identify which topics in the syllabus are best placed for service learning. They should also consider potential community partners and reach out to them before the school year begins. In agreeing to work with the partner (s), there must be clarity in terms of the expectation of everyone involved, and all participants should demonstrate significant commitment to the exercise. It is possible that a community partner might pull out at the last minute. This makes having a backup plan or partner important.

2.12 Reflective Methods.

According to Ministry of Education, Science and Technology (2013), reflective methods help learners to link theory, practice and experience. In doing so, learners are able to understand the relevance of learning. In addition, learners evaluate their strengths, weaknesses, inadequacies and ways in which they can improve. The Ministry asserts that reflective methods provoke critical

thinking as learners establish the links between what they have learnt and its application in a real life situation. The following are the reflective methods which promote critical thinking.

2.12.1 What, So-what, Now-what.

According to Ministry of Education, Science and technology (2013), What, So-what, Now-what is a reflective method that allows learners to relate classroom knowledge to real life issues. It is comprised of three components: What, So-what, and Now-what. The first part, what, involves asking learners to summarize important ideas they have covered in a discussion. So-what consists of asking learners the importance of what they have learnt and Now-what involves asking learners the course of action they will take about a problem. According to Ministry of Education, Science and Technology (2013), this method is uniquely relevant to teaching Social Science subjects because the teacher's task is not only to transmit knowledge but also to inculcate an interest in civic action and a sense of agency in learners, thereby equipping them to solve the numerous challenges in our society.

The Ministry of Education, Science and Technology (2013) contends that this method is not very useful if learners only know about sexual harassment but are not motivated to stop and/ or avoid compromising situations that could lead to harassment. As such, for Life Skills lesson on this topic, a teacher could ask learners to summarize the causes of Sexual Harassment. Beyond that, s/he could ask learners about the relevance of this sexual harassment lesson to their own lives and that of society (So What). After this discussion, they could suggest ways of progressively reducing or eliminating the prevalence of sexual harassment in their society (Now What). That is, What, So-what, Now-what is useful in developing critical thinking because it connects knowledge to practice, and to problem solving.

2.12.2 Quick Write.

According to Ministry of Education, Science and Technology (2013), this method can be described as a "brief written reflection on a topic" ideally suited for the anticipation or consolidation phases of a lesson". It further stipulates that, when teaching Social Science subjects, teachers could have learners write a quick reflection on happenings in society that have a connection with the lesson to be taught. For instance, a news item on Malawi's budget could provide a great linkage to a lesson on the Malawi Revenue Authority (MRA). Learners could be asked to write a quick note to the Minister of Finance on their priority areas for the budget for the next fiscal year. The teacher or learners could synthesize these notes and list the requests, which should illustrate why it is important to generate revenue, hence requiring the MRA.

Quick write could also be employed at the end of a lesson to enable learners to reflect on what has been learnt. For instance, a Bible Knowledge lesson on conflicts in home and school could end with learners doing a quick write on their own actions that could have resulted into conflict. Quick write promotes critical thinking by enabling learners to reflect and write, and to connect lessons learnt to their own thoughts. By translating thoughts into writing, learners develop skills in analysis, inference and self-regulation (MoEST, 2013).

2.12.3 Dual Entry Diary.

According to Ministry of Education, Science and Technology (2013), the dual entry method is a note-taking strategy that requires learners to write notes in two columns. Learners read a text and write down the crucial issues on the left-hand column of a piece of paper and associated comments on the right. To facilitate social learning, learners should be encouraged to share their ideas with other members of the class. In teaching Social Sciences, a dual entry diary could be used anytime

during a lesson but would be most powerful if used as homework or as a class assignment. Learners could be asked to read portions of their textbook and do a dual entry diary on a topic.

When given as an assignment prior to class, learners can read out the crucial issues they noted when they come to class so the teacher can address them. This is usable for most topics in Social Science subjects. This method develops learners' comprehension and reflective skills and is a very useful tool for critical thinking.

2.12.4 Socratic Questioning.

MoEST (2013) maintains that, to use this method in teaching is to use thought-provoking questions to stimulate critical thinking. The teacher poses questions that are meant to inspire learners' critical thinking and to generate in them the excitement to learn more. This method can be used any time during a lesson but can be extremely helpful at the anticipation stage of a lesson. Socratic methods promotes listening, synthesis and evaluation skills that promote critical thinking.

2.12.5 Discussion Method.

The Ministry of Education, Science and Technology (2013), defines discussion as an alternatively serious and playful effort by a group of two or more to share views and engage in mutual and reciprocal critique. According to Ministry of Education, Science and Technology (2013), this definition implies that discussion in the classroom ought to be done in a more relaxed environment where everyone is motivated to express themselves. According to Ministry of Education, Science and Technology (2013), for an effective discussion, teachers and learners assume an equal status so that teachers' comments are not taken as authoritative and the final word on the topic.

According to Ministry of Education, Science and Technology (2013), discussion method develops main critical thinking skills as it involves communication with others. By participating in

discussions, learners raise arguments, support motions and critique arguments made by other people. Doing all these effectively involves evaluating evidence and making clear and systematic arguments so that one can explain his or her point of view. Communicative skills become refined during discussion if the method is implemented effectively. Learners also develop analytic skills in discussion by listening to other opinions, detecting strong and weak arguments and drawing relationship between the opinions of others and their own opinions. In supporting arguments during discussions, learners learn to paraphrase statements of others and draw interpretations to support their own cause.

Such exercises help learners develop their interpretive skills. Inferential skills are also developed by learners when they deduce consequences from opponents' statements and use them to critique or counter their arguments. MoEST (2013) states that, in order for the discussion method to be used effectively, prior to participating in discussion, learners should investigate the topic and come to class with their own findings and conclusion (s). Such opportunities to prepare ahead of time for discussions promote investigative skills. In consensus-building discussions, learners assess all the arguments made and draw rational conclusions. Such evaluative skills develop alongside synthesis skills, which enable learners to reconstruct their beliefs on the basis of new evidence.

The Ministry of Education, Science and Technology (2013) has also identified factors which teacher educators need to consider when using Critical Thinking Methods to enable them use the methods effectively. These factors are considered in the next sub-sections.

2.13 I-Search.

According to Ministry of Education, Science and Technology (2013), I-Search is a learner-directed inquiry process that utilizes a systematic plan to solve problems. Learners are moved by curiosity to ask questions, which results in the undertaking of a systematic procedure to collect, analyze, interpret and present results. They formulate a research question, prepare a research plan, collect, analyze and interpret data and present results in a research paper. I-Search "empowers learners by making their self-selected questions about themselves, their lives, and their world the focus of the research and writing process".

According to Ministry of Education, Science and Technology (2013), the following are the ways in which teacher educators can use the I-Search method effectively. Firstly, helping the student teachers to shape the research. Secondly, helping student teachers to scale down research agendas. In addition, helping students to come up with appropriate methodologies needed for collecting and analyzing data. Fourthly, interrogating student teachers research findings. Finally, supporting student teachers' research write ups and presentations.

Introducing the I-Search method in teaching Social Sciences can be a rewarding critical thinking learning experience for learners. The Ministry of Education, Science and Technology (2013), contends that as learners plan and execute their I-Search agenda, they determine their actions, such as staying longer at one place for observation and following research activities. It is also argued that, with I-Search, learners analyze data they collect through their research, interpret result and draw conclusions based on them. The Ministry asserts that in teaching Social Sciences, teachers aim to develop learners' abilities to solve societal problems. With this goal in mind, teachers should offer opportunities for learners who show genuine interest in a topic/question, to undertake such small scale research projects as a way of developing their critical thinking skills.

2.14 Assessment.

According to Ministry of Education, Science and Technology (2013), assessment is crucial in service learning. This is the extent to which the goals of service learning have been met. This might include attendance records, change in learners' views on the population served by the organization as well as measurable knowledge that has been acquired by their participation in service learning. To do this, the Ministry of Education, Science and Technology (2013) recommends the use of research scales, written essays and other interview guides. Such assessment need not be only for learners. According to Ministry of Education, Science and Technology (2013), teacher educators can also assess the partnership arrangement and the extent to which the partnership should continue. The partner, in turn, can assess both the school and the learners and request modifications in structure and form for subsequent.

2.14.1 Assessment that stimulate Critical thinking in the Social Science subjects.

In addition to the guidelines which teachers educators need to follow in order for them to use Critical Thinking effectively and the factors which teacher educators need to consider for them to use Critical Thinking effectively**,** the Ministry of Education, Science and Technology (2013) has also suggested assessment methods which teacher educators need to use in order to stimulate critical thinking in Social Science subjects.

According to Ministry of Education, Science and Technology (2013), summative assessment tends to serve as a judgement on student teachers' abilities as though these abilities are fixed, and they typically do not make interventions in the learning process in a timely manner as formative assessment do. In contrast, formative assessment aims at checking learners' progress in an ongoing

manner and seeks to identify their needs in order to appropriately adjust teaching and learning. Both formative and summative assessment can play an important role in the development of critical thinking skills when the review of a range of materials gathered over time in order to understand and document the learner's progress.

Assessment for learning, especially for critical thinking, is a process of finding out where a learner is on a learning continuum, knowing and making explicit where the learner eventually needs to be, and most importantly, showing the learner how to get there (Ministry of Education, Science and Technology, 2013). Reflection by teacher educators is important to determine what they know of the learners, analyze the information collected about them through assessments and reflect on what this information tells them about the student teachers emerging understanding. It is not only our teaching methods and strategies that may need to be changed but also our approach to assessment if we have to educate for critical thinking. The Ministry of Education, Science and Technology considers the following as the general principles which teacher educators need to follow for developing assessment that stimulates critical thinking.

2.14.2 Assessment should reflect core educational values.

According to Ministry of Education, Science and Technology (2013), assessment that stimulate critical thinking are dependent on the educational values of the society. Teacher educators make choices in terms of what to assess and what not to assess. Embedded in such decisions is an implicit understanding of what is of most value in the curriculum. If teacher educators of Social Sciences decide to examine student teachers on their knowledge of sources of pollution and assess their commitment to reducing environmental pollution, it signals to the student teachers that environmental consciousness is of great value. The Ministry further contends that an effective assessment is formulated to cover the significant values which the teacher educators' hope to teach.

2.14.3 Assessment should be multi-dimensional.

According to Ministry of Education, Science and Technology (2013), in order to stimulate critical thinking, assessments should be multi-dimensional, evaluating all the domains of learning. It tends to be easier to assess learners factual knowledge of a subject through a multiple choice test than it is to assess the more complex process of attitudinal change as this might involve a process that runs over a period of months or years (MoEST, 2013), However, given the multi-dimensional nature of learning, it is important that assessment tools are diversified to capture complex values and skills, and sequentially coordinated to build upon each other within a subject area and across other areas in the curriculum.

2.14.4 Assessment should be On-going and not episodic.

Assessments that stimulate critical thinking are not one-shot events. They are part of a progressive exercise that builds on data about a learner's understanding and performance over a long period, and across varied curricular areas (MoEST, 2013). Results gathered from one assessment procedure are not an end in themselves because they will have more meaning if these results are compared to those from previous lessons or school terms. This will allow teacher educators to see patterns in student teachers' performance that may help to improve both learning and teaching.

2.14.5 Assessment should be based on issues of what student teachers care about.

Assessments that have the greatest impact tend to be those that are built on the interests of learners. If student teachers cannot see the connection between an assessment and the issues they care about, the assessment process reduces itself to a routine where both teachers and learners can go through an assessment process but with little meaning for them. In contrast, when assessments are based

on the curiosity of student teachers, they develop particular interest in the feedback, using it to evaluate their own learning and repositioning themselves for improved learning experiences (MoEST, 2013).

2.14.6 Assessment should promote teaching and learning.

According to MoEST (2013), assessments work best when they are used as an input for overall school agenda of promoting teaching and learning. It further contends that it is of no use to assess learners if student teachers or school administrators do not care about results beyond simply their ranking function. For schools to be committed in promoting critical thinking, data emanating from assessments are a key ingredient in school decision-making. Policy formation that seeks to improve learning, and especially critical thinking, should be inspired by assessment data.

2.14.7 Assessment should be viewed by teacher educators as a responsibility to student teachers and the public.

According to Ministry of Education, Science and Technology (2013), assessment ought to be seen as a responsibility to the student teachers and to society because stakeholders in education ought to know how well the goals of the curriculum are being met. Particularly for critical thinking teacher educators, every assessment should be viewed as fulfilling their responsibility of communicating progress in the learning process to student teachers, their families and the wider public. With this view in mind, assessments should be designed to capture the most important of information about student teachers' learning experiences.

2.15 Studies on Critical thinking.

Studies which have been conducted on investigation of Critical Thinking pedagogical practices internationally have revealed that there is poor use of critical thinking pedagogies by teachers in

classroom. This study has been conceived out of the assumption that teacher educators of Social Sciences may or may not be using Critical thinking pedagogies in their training of student teachers which, as has been argued earlier in this study that it enhances high intellectual quality primary teacher education. Some of the studies which have been conducted on Critical Thinking internationally are as follows:

Teachers' critical thinking pedagogical practices were investigated by Zohir *et al*. (2010) to explore classroom practices of Malaysian secondary school Geography teachers. Findings of the study revealed that the practice of critical thinking amongst the teachers was very low. The teachers were observed to have been using more traditional teacher-centred methods in which there were very limited interactions between the teachers and the students. Teachers' critical thinking pedagogical practices were also investigated by Ishak (2010) to investigate critical thinking pedagogical classroom practices of Malaysian secondary school Science teachers. Findings of the study indicated that the practice of Critical Thinking was very low amongst teachers. Just like in Zohir's *et al*. (2010) study, Ishak's study also found that the teachers were observed to have been using more traditional teacher-centred methods in which there were very limited interactions between the teachers and the students.

Summary.

This chapter has presented the in-depth review of the literature on the integration of critical thinking methods in teaching Social Sciences, both locally and internationally. The chapter has discussed some of the important information about critical thinking which include the definition of critical thinking, background of critical thinking in Malawi, significance of critical thinking in the Malawian history, the Revised Malawi Initial Primary Teacher Education Programme, and how critical thinking promotes quality education. The chapter has further focused on the milestone

of critical thinking in Malawi, the mass training of critical thinking educators, the production of a set of critical thinking teaching and learning resources, and the integration of critical thinking into the national curricula. Finally, the study has reviewed some of the studies on critical thinking carried out elsewhere. These studies have shown that educators are finding challenges in integrating Critical Thinking in their lessons. The literature review has revealed the gap in terms of non-existence of studies conducted on educator's integration of Critical Thinking in Malawi. It is against this background of the existing gap in literature that necessitated the undertaking of this study.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGIES.

3.1 Introduction.

This chapter provides an overview of the research design and research methodology that were used in this study. It offers a motivation for adopting a qualitative methodological paradigm and for choosing an interpretive research design as being most appropriate for answering the main research question and sub-questions. With the aim being to investigate teacher educators' integration of Critical Thinking pedagogies in Social Science subjects in the Malawian Teachers' Training Colleges. I therefore introduce the chapter with a brief overview of the two methodological paradigms underpinning my study, as well as with an explanation of the research design, methods and sampling procedure. The issues of research sites, target population, research instruments/tools, data analysis, presentation and data interpretation, as well as issues of data management and other related aspects are also discussed. Finally, the chapter deals with aspects of trustworthiness, as well as the ethical considerations pertaining to the study.

3.2 Research Paradigm.

The social phenomenon has to do with experiences from the perspectives of the individuals (Lester, 1999). Therefore, it was imperative to use interpretive inquiry which helped the researcher to find out what happens, how it takes place and why it happens in that way. Using the interpretive research paradigm not only allowed the researcher to scrutinize the phenomenon under study, but also enabled him to explain the situation in a nuanced way. It also provided the researcher with the best opportunity to establish the necessary understanding from engagement with the participants (McMillan & Schumacher, 2006, p.15; Creswell, 2012). Using this approach, the researcher constructed understandings of teacher educators' experiences and practices in the integration of critical thinking methods in teaching Social Science subjects in various TTCs of the country.

3.3 Research Design.

This study used case study research design. Case study design develops an in-depth analysis of a single case or multiple cases. Much can be learned from studying one individual, one classroom, or one school district (Creswell, 2012). This study satisfies these descriptions in that I collected data in the natural setting of the teacher educators in their classrooms and four Teacher Training Colleges were involved.

3.4 Research Approach.

The study used qualitative research approach. The choice of this approach was based on its characteristics which include its preference for narrative description, assessment of validity through cross-checking sources of information (triangulation), preference for narrative summary of results, unwillingness to tamper with naturally occurring phenomena, and preference for expert informant (purposive) samples (Creswell, 2012).

3.5 Sampling Technique.

This study used purposive sampling of the setting or site of the research and the participants. A sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Merriam, 2002, p. 15). Purposive sampling is 'a form of sampling in which the selection of the sample is based on the judgement of the researcher as to which subjects best fit the criteria of the study' (Merriam, 2002, p.15). The samples used in this study are described below:

3.6 Research Sites.

The participating colleges were purposively and randomly sampled. All the four colleges sampled are purely government institutions, including their management. One of these colleges was selected because of its proximity to the Malawi Institute of Education (MIE). This college also

served as the rural representation of colleges in order to find out how critical thinking methods are being integrated in remote areas. The assumption here was that this college can benefit a lot from the frequent Critical Thinking trainings conducted by the MIE at intervals. Otherwise, the study will conclude that if MIE is failing to train teacher educators on Critical Thinking pedagogical practices at this college, then, disastrous in the other Teacher Training Colleges throughout the country.

Similarly, the location of the other college encouraged the researcher to go for it in the sense that it is expected to be one of the first beneficiaries in terms of training and other critical thinking teaching and learning materials as it is closely erected to the Ministry of Education, Science and Technology. That is, several critical thinking facilitators from the ministry will find it convenient to go and train or supervise how teacher educators are implementing critical thinking methods in teaching student teachers. The other reason for the choice of this site was that it would serve as the representation of the colleges that are situated in the urban areas.

Lastly, the other two (2) colleges were chosen to serve as the control variables because they are situated in the rural side of the country to the South, and the other one to the Central of Malawi. Since the first two colleges are situated one in the South and the other one in the Central respectively, it means that the findings of this study cannot be generalized.

3.7 Target Population.

A target population according to Saunders, Lewis and Thorn Hill (1997) is a full set of cases from which a sample is taken. Cooper (2006) called it a population of interest from which the individual participant or object for the measurement is taken. This study targeted fourteen teacher educators who teach Social-Sciences including Social Studies and Life Skills in the selected Teacher

Training Colleges. Cooper (1998), states that the size of a sample within a given college should be a function of variation in the population parameters under study and the estimated precision needed by the research.

3.8 Participants' Sample.

Gay and Airasian (2000) defined participants' sampling as the process of selecting a number of individuals for a study in such a way that they represent the larger group from which they were selected. Rarely do studies gather data from the entire target population. In this view, the study focused on a 14 participants, 2 from college A, and 4 from each remaining colleges namely college B, C, and D. These were the teacher educators for Social and Environmental Studies and Life Skills.

3.9 Research Instruments/ Tools.

The nature of this study required 'official documents' review and classroom observation to be the main instruments for data collection. These research instruments are discussed in detail below:

3.9.1 Official document review.

Study of official documents is the primary means of investigating the 'intended' critical thinking methods used by teacher educators in the classroom. The term 'official documents' here refer to curriculum policy documents relating to Social and Environmental Studies and Life Skills 'intended' curriculum with information on the content and pedagogy of Social Studies and Life skills curriculum such as the 'Syllabi' and the Lecturers' and Students Modules for the three subjects.

Apart from official documents, ‘documentary sources’ were also studied to investigate the ‘intended’ critical thinking methods. The term ‘documentary sources’ here refers to both official and other relevant written materials obtained from the college, such as teachers educators’ schemes of work, lesson plans and notes and student teachers’ work. The documents mentioned above were scrutinized and analyzed, using a selection of techniques for qualitative content analysis (Denscombe, 2003, p.221-223) and (Babble, 2004, p.314-322):

• Choosing an appropriate sample of texts. In the case of this study, texts selected were those that contain information on the ‘intended’ critical thinking pedagogies used by the teacher educators.

• Examining the text initially to form a "hypothesis" about the essential message it conveys. In this case, the texts were examined to form an impression of the nature of the critical thinking methods envisaged that the teacher educators will use to assist student-teachers achieve better learning outcomes, thereby improving the quality of teacher education.

• Coding the texts in relation to the critical thinking methods inherent in the documentary sources.

3.9.2 Teacher educator interview guide questions.

In addition to the official documents and other written materials obtained from the college, a questionnaire was used to investigate teacher educators’ integration of critical thinking pedagogies in teaching Social Science Subjects (See Appendix 1). Fetterman (1989) highlights the significance of questionnaires as a tool for data collection. Fetterman (1989) argues that questionnaires are an excellent way to tackle questions dealing with representativeness although they may not have the same flexibility as interviews and observation and might not be able to provide data of the same detail, depth or clarity, due to being highly structured and requiring written responses (p.65). In other words, by being distributed to a larger sample than can be used in interviews and

observations, questionnaires can throw light on how representative a particular issue or opinion might be in a certain population. In this study, a questionnaire was used as another source to obtain further information and clarify aspects of the 'intended' critical thinking pedagogies prescribed in the official documents. The questionnaire therefore helped to validate data obtained through document review.

The questions sought to elicit the following information:

(i) Identity of the teacher training college.

(ii) Teacher educator's teaching experience

(iii) In-service courses attended by the teacher educator

(iv) The teacher educator's critical thinking methodologies of teaching Social and Environmental Studies and Life Skills Education.

(v) The teacher educator's critical thinking assessment methodologies for assessing student-Teachers in Social and Religious Studies and Life Skills Education.

(vi) The teacher educators' opinions on the critical thinking methods stipulated in the curriculum Policy documents for Social-Sciences subjects of Religious Studies, Social-Studies and Life Skills Education.

My supervisor and some educationists looked at the questionnaire to ascertain if it elicited desired information. In addition to my supervisor and other educationists, before administering, the pilot of the questionnaire was made by some teacher educators. The pilot results assisted me to refine the questionnaire prior to the actual data collection process.

3.9.3 Classroom observation.

The most important data sources for the study was the classroom observations which took a major portion of the field work. In this study, the observation of teacher educators teaching Social and Environmental Studies and Life Skills Education were conducted during a number of lessons.

During the observation, data was collected using two methods; voice recording using a digital recorder and completing a classroom lesson observation form to capture critical thinking teaching practices of teachers (See Appendix 2). Teacher educators were requested for their permission to have their classroom interactions recorded.

3.10 Interviews.

Key issues from lesson observations were followed up in detail with the teacher educators during the post lesson observation interviews in order to seek clarification and confirming critical thinking patterns to be mapped out in the lesson observations (See Appendix 3).

In this study, probing interviews were used at the end of a lesson observation. The interviews followed the pattern described by Spradley (1979). According to Spradley, interviews proceed much like a conversation, following the interviewee or participant's interests, but the interviewer nevertheless guided them in a fashion that enabled him or her to systematically learn more about the participant's life or experiences. Spradley further asserts that, ‘it is best to think of interviews as a series of friendly conversations into which the researcher slowly introduces new elements to assist informants to respond as informants’ (Spradley, 1979, p.58).

Certain types of questions were characteristically used in interviews. Spradley identifies one of the main types of questions as ‘descriptive questions’ (Spradley, 1979, p.60). Descriptive questions are ‘intended to encourage an informant to talk about a particular cultural scene’, in the process

eliciting utterances in the informant's particular discourse (Spradley, 1979, p.85). These questions can take the form of 'grand tour' questions, which ask for a verbal description of significant features of the situation being studied (Spradley, 1979, p.87). 'Mini-tour' questions deal with smaller units of experience. Other types of questions in this category are 'example' and 'experience' questions (Spradley, 1979, p.87-88). Interview questions may also be open-ended or closed-ended (Fetterman, 1989, p.54). As suggested above, open-ended descriptive questions such as 'tell me about …' or 'give me an example of …' were frequently used in interviews. Closed-ended questions, on the other hand, 'are useful in trying to quantify behaviour patterns' (Fetterman 1989, p.54). An example would be 'what critical thinking methods did you use in your lesson?'

According to Fetterman, 'researchers typically ask more open-ended questions during the discovery phases of their research and more closed-ended questions during confirmation periods' (1989, p.54). The interview techniques described above was used in this study. The interviews were semi-structured rather than structured, although specific questions were developed to provide guidance during the interviews. The advantages of semi-structured interview are well documented in the literature. According to Cohen and Manion (2000), the semi-structured interview allows the interviewer greater scope and depth to probe and expand the interview responses. Cohen and Manion (2000) argue that, 'the semi structured interview is an open situation having greater flexibility and freedom.'

All the interviews were transcribed. Two copies of the transcripts were made for each interview and one copy was sent to the interviewee for comments where interviewees felt that the transcripts have not fully represented what they will have intended to say.

The details about the interview sample and the type of interviews which were conducted in this study are described below.

3.10.1 Pre-lesson observation interviews.

I interviewed teacher educators before each lesson observed (See Appendix 2). The purpose of this instrument helped to establish what the class was doing in Social Studies and Life-skills Education and the teaching methods the teacher educators used. Pre-observation interviews enabled me to collect data about what a teacher educator planned to do in a particular lesson and the strategies the teacher educator used and the reasons behind the choice of those teaching strategies.

3.10.2 Post-lesson observation interviews.

After observing each lesson, I interviewed the teacher educators again (See Appendix 3). The interviews were designed to follow up issues noted during class observation. The pattern and nature of questions were varied from one individual to another depending on issues that emerged during lesson observation. Also, during post-observation interviews, the teacher educators were given a chance to elaborate and clarify some points which were encountered during the lesson.

3.11 Trustworthiness of instruments as a measure of credibility.

Strategies such as triangulation and member checks were used to ensure trustworthiness of the research findings (Merriam, 2002, p. 27). Triangulation means the use of 'multiple sources of data', achieved by using two or more different data collection instruments. Data collected using one method such as interviews may be confirmed against what has been observed or found in documents. In this study, triangulation was implemented through the use of interviews, lesson observation and document analysis to enhance the trustworthiness of the research findings.

Member checks on the other hand require that the researcher confirms with the participant on his or her interpretation of the data provided. In this study, member checks with the teacher educators' participants were done. In addition to this, a questionnaire was used to cross-check trustworthiness of data which was obtained through the prior stages in data gathering. Post observation interviews were used to cross-check trustworthiness of data obtained through lesson observation. This means that the research findings can be trusted because they are credible, transferable, and dependable.

3.12 Data Management.

Data obtained from various sources was kept in the form of field notes and transcripts. Field notes from the analysis of official documents and all the documentary sources used in the study and the teacher educators' schemes of work and lesson plans were made.

3.13 Data Analysis.

Data analysis involves the researcher understanding and interpreting the data collected in order to generate findings, make conclusions and recommendations on the phenomenon under investigation (Merriam, 2002, p. 25). As already indicated, data was collected from teacher educator questionnaires, interviews and observations of lessons in their classrooms. For this reason, the goal when analyzing the data was to achieve accuracy between the questionnaires, interview and the teacher educators' classroom practices that the data represented (Emerson et al., 1995). I achieved this goal through a number of steps. These steps involved:

i) Rigorous reading of the data in order to familiarize myself with them.

ii) Checking the transcripts while listening to the original tapes and with additional notes or deletions made where necessary.

iii) Reading through the transcripts and marking the important points.

iv) Marking possible quotes.

v) Identifying themes that emerged from the data. These themes or categories were those related to the items in the teacher educator questionnaires, lesson observation guide and post-lesson observation interview guide.

vi) Arranging the themes so that they form a logical pattern to facilitate the writing of the study's report.

vii) Putting similar responses together and putting them under the relevant themes.

3.14 Ethical considerations.

In respect of the legal framework of Research Policies or Ethical Issues, the researcher sought permission from the office of the Dean of the Faculty of Education (See Appendix 4a) for Mzuzu University to conduct this study. Permission was also sought from the Department of Teacher Education Development (DTED) (See Appendix 4b), Principals of the colleges were asked to allow the participation of their colleges in the study (See Appendix 5). The researcher also sought permission from teacher educators to participate in the study (See Appendix 6a), and they were asked if they can accept to be audio-recorded during classroom deliberations (See Appendix 6b). Furthermore, the consent was sought from all the four principals to take part in the study as part of the participants (See Appendix 6c). Finally, all names of the principals, participants and those of their colleges were represented with pseudonyms throughout this study in accordance to the standard requirements of Mzuzu University.

The researcher endeavoured to ensure the anonymity of the respondents from data collection to data analysis by ensuring that the personal details of the respondents do not appear anywhere in the instruments. The respondents' details are excluded in analysis and especially during coding. The researcher also ensured to cite all the sources and not to plagiarize any other person's work. The information gathered was used for the purposes of research and the information was made available to the respondents who asked to have their recordings.

Summary.

The study on investigating teacher educators' integration of critical thinking pedagogies in Social Science subjects in Teacher Training Colleges used qualitative approach and employed a case study design. The study purposefully and randomly sampled the sites and participants. It also used document review, face-to-face interviews with college principals and teacher educators and classroom lesson observation as instruments for collecting data. The study used classroom lesson observations in order to triangulate the data. Data was analyzed using the thematic content analysis method.

CHAPTER 4: RESEARCH FINDINGS.

4.1 Introduction.

The aim of this study was to investigate teacher educators' integration of critical thinking pedagogies in Social Science subjects in four selected Teacher Training Colleges in Malawi. Two of which were from the Southern region and two were from the Central region. These colleges are given pseudonyms A, B, C, and D. This chapter therefore presents the findings of the study. The study used qualitative research approach. Data was collected through semi-structured face to face interviews and classroom observations and it was analyzed using thematic analysis approach. As Robson (2002) pointed out, data in their raw form do not speak for themselves unless analyzed and interpreted. Therefore, using thematic analysis, the researcher was able to single out, examine, and record patterns. Boyatsi (2008) argues that, thematic analysis is carried out by reviewing the data, making notes and then sorting it into categories. According to Boyatsi (2008), thematic analysis is used in qualitative research to focus on examining themes within data through the process of coding, to create established meaningful patterns. The detailed approach taken to analyze the data is presented in sub-sections 4.1.1, 4.1.2, and 4.1.3 below:-

4.1.1 Analysis of face to face interviews data.

Interview data analysis began by listening to the recordings of the data several times and transcribing the data. After the completion of transcription of the data, the researcher had to read through all interview transcripts to get better sense of all the data. In the course of doing that, attempts were made to identify key themes and patterns from the data. In fact, data analysis in qualitative research is an iterative cyclic process following data collection and not a linear process (Lichtman, 2010).

4.1.2 Transcribing the data.

By reading through all the interview transcripts, the researcher selected one transcribed interview at a time to read through carefully, with the aim of identifying key points to be coded. All the codes were written on the margins of the paper. The researcher followed this procedure until all the transcribed interviews were covered. Conclusions on the findings were drawn from the themes.

4.1.3 Analysis of data from classroom observations.

Data obtained from lesson observations was read through several times and it was analyzed to identify key points. The classroom observations were done to triangulate interview data collected in order to establish if what the respondents had expressed during interviews was the reality of their classroom practices. The following are the key findings of the study, starting with the description of the research sites and the participants.

4.2. Description of Research Sites.

The study was conducted in four Teachers Training Colleges described in details below:-

4.2.1 College A.

Location.

The college is situated to the far North of Central Region of Malawi off M1 Road. It is found in the Central East Education Division (CEED).

Brief History of the College.

The foundation of this College was laid by His Excellency Ngwazi Dr Hastings Kamuzu Banda, the life President of the Republic of Malawi on 17 September, 1986. It is one of the oldest Teachers' Training Colleges in Malawi.

College Enrollment and Staffing.

This is probably the second largest college in the country in terms of enrolment as it is currently hosting 705 student teachers, of whom 472 are males and 233 are female student teachers. The college has a total number of 42 lecturers most of whom are holding Bachelors' Degrees in Education and a few have Masters Degrees in Education.

Environment.

The environment is unfriendly for teaching and learning in a number of ways including the fact that lecturers are divided in the way they conduct their daily routines. The Principal was reluctant to provide the history of the College despite the fact that several reminders to do so were done. This implies that the scanty information concerning this College was obtained from some well-wishers who are also part of the Academic Staff-Members. On the part of learners, the College need to come up with some stiff measures to improve the general discipline of their student teachers who seem to be not serious with their studies. Too much noisy in the classroom was observed, late coming into the classroom as some were still coming in when the lesson was almost through. They could join their fellow student teachers even 40 minutes later thereby attending the class only for the remaining 20 minutes. This clearly shows that there is poor discipline among student teachers.

Management.

The college has committees which look after the different activities at the college. For example, there is a discipline committee, social welfare committee and a sports committee. The principal is responsible to the Department of Teacher Education Development (DTED). However, he is an ex-officio member of an elected college committee which runs the college. The committee has powers

provided by the Education Act to request the removal of any lecturer including the principal should they feel that their performance is unsatisfactory. Furthermore, the college operates on outsourcing other services such as catering, cleaning, and security. However, the provision of books and the payment of lecturers remain the responsibility of the Ministry of Education through the DTED.

Ethos of the College.

There is no cooperation among members of the same department. For example, each member of staff concentrate on his or her own business. There is no team working spirit among academic staff. These sour relationships can easily been observed between academic staffs and supporting staffs such as the relations between a teacher educator and a librarian. Despite the permission sought and granted by the College Principal, some teacher educators were unwilling to have their classes observed by the researcher. Some of the teacher educators demanded money from the researcher to have their classes observed for the integration of critical thinking methods in Social Science subjects thereby giving no room for the researcher to collect data from them.

Vision Statement.

Towards the production of competent Primary School Teachers.

Mission Statement.

To educate and develop professional teachers so that they are able to effectively and efficiently deliver quality and relevant education at primary school level.

4.2.2 College B.

Location.

The college is situated in the Southern Region of Malawi, to the far East of Blantyre City, and its district borders with Mozambique. It is established in the Traditional Authority Kaduya in the district.

Background of the College.

The first postings of the college were made in April, 2014 during the reign of Dr Joyce Banda, the fourth President of the Republic of Malawi. However, the college did not start its operations during this time because its infrastructures were still under construction. Therefore, some of the candidates that were selected to this college were temporarily sent to Machinga and others to Blantyre Teachers' Training Colleges. The college started its third term with IPTE 10 in April, 2015, but was officially opened on 27th June, 2017 by His Excellency the President of the Republic of Malawi, Prof. Arthur Peter Mutharika.

Environment.

The environment is conducive for teaching and learning due to the fact that it is located about 4 kilometers away from the trading centre and that it is along a small hill.

Catchment Area.

Apparently, learners come from a number of neighboring districts and villages covering wide geographical area. During the time of data collection the college registered a total of 273 student teachers. Among these, were 167 male student teachers and 106 female student teachers making a

total of 273 student teachers. However, there was the possibility of having extra learners who shall report for classes after the second selection list is out.

Ethos of the College.

The college appears to have a very relaxed atmosphere in the sense that there is good cooperation between student teachers and staff, and among staff members. The relationship between academic staff and support staff is also cordial. For example, a teacher educator was observed sharing stories and laughing on top of their voice. Another example is that one teacher educator was seen consulting his fellow member of staff on how he can teach some difficult topics in Social and Environmental Studies.

Vision Statement of the College.

The college has the vision of producing well qualified teachers equipped to achieve quality education to every learner for individual and national development.

Mission Statement.

To prepare student teachers to become responsible, dedicated and creative teachers to achieve quality education for individual and national development.

The College's Moto and Core Values.

The colleges' moto is achieving excellence in the teaching profession. Its Core Values are Dedication, Creativity, Responsibility, Innovation, and Resourcefulness.

Resources.

The college has modern buildings and furniture for the staff members. Lecturers' houses are within the school compound. The provision of modern lecturers' houses at this college is one of the major

differences with other ancient colleges that existed during the Kamuzu era. The college has various resources including teaching, learning and assessment resources, Information and Technology resources, Human resources and many more. However, teaching, Learning and assessment resources such as Tutor's Textbooks, Learner's Textbooks, Initial Primary Teacher Education New Curriculum Syllabi, Modules, and Information Technology Equipment are inadequate.

Community.

There is mild relationship between the surrounding community and the college in the sense that there is no issues related to land encroachment. However, lecturers at times do complain about theft from the surrounding inhabitants who steals their farm produce and other domestic tools and implements such as hoes, panga knives, bicycles etc. There is also careless cutting down of trees around the college fence by the surrounding communities.

Management.

The organizational structure of the college consists of the acting principal, acting deputy principal, heads of departments and lecturers (teacher educators). This structure is the same in all the other colleges studied in this research. Other responsibilities given to lecturers include heads of examinations, clubs and societies. The college has committees which look after the different activities at the college. For example, there is a discipline committee, social welfare committee and a sports committee.

The College has excellent management as observed in the way lecturers are organized. There is cooperation among staff members that helped the researcher to feel most welcome the time of data collection. For example, lecturers could easily strategize by swapping their periods thereby giving the researcher time to observe their lessons in a in a good atmosphere. The College also administers

student teachers that are well-disciplined in all sectors of human faculties. They are properly dressed, good time keepers, and well mannered. In short, student teachers at this College are presentable. That is, good managerial skills at this College facilitated the smooth running of the process of data collection.

The principal is responsible to the Department of Teacher Education Development (DTED). However, he is an ex-officio member of an elected college committee which runs the college. The committee has powers provided by the Education Act to request the removal of any lecturer including the principal should they feel that their performance is unsatisfactory. The committee also controls funds contributed by pupils for paying a security guard at the school. In addition, the college operates on outsourcing other services such as catering, cleaning, and security. However, the provision of books and the payment of lecturers remain the responsibility of the Ministry of Education through the DTED. The college leadership takes a special interest in the general welfare of the learners. This is reflected in the manner in which the principal handles student teachers.

Besides that, the college management indicated the following as the major challenges facing the college. Firstly, absence of college demonstration school. The college has no demonstration school as such lecturers have to move to the nearest Primary School which is situated about 4 kilometers away from the college. This makes them to walk long distance to the school which becomes a very big problem especially during the rainy season. Secondly, the college has insufficient offices. There are no offices such as Heads of Department Offices. As such, heads of departments share the staffroom space with any other lecturer thereby failing to concentrate much on the duties assigned to him or her. Finally, lack of cold rooms at the college. The college has few cold rooms that are not in good working condition. This negatively affects the running of the college on daily basis.

College Staffing.

Currently the college has 31 Academic Staff members of which 19 are male lectures and 12 are female lecturers.

4.2.3 College C.

Location.

It is found in the Southern Region of Malawi under South East Education Division, and along the Lake Shore Road in the area of Traditional Authority Sitola.

Brief History of the College.

The college opened its doors in September, 2010 with IPTE 6 as the first cohort of students. It was officially opened on 19th May, 2011 by the Minister of Education, Science and Technology Professor Arthur Peter Mutharika, who is also the President of the country.

Human Resources.

The college started with only 19 academic staff officers and the support staff was led by the college Bursar (late, may His Soul Rest in Eternal Peace). He worked in collaboration with the Assistant Human Resource Officer while the Accounts Section was led by another person. Currently the college has 53 Academic Staff and 25 Administrative Staff.

Management.

For an organization to run properly it needs a tool to guide. This is what led to the development of a Charter in order to give direction to this college in running its daily affairs. The charter was developed in 2012 and launched in 2013. At the launch of the charter the college was hosting IPTE 13 students. The Guest of Honour was the then training manager for the college based programmes

at Department of Teacher Education Development. The charter comprises Vision, Mission Statement and Core Values that the college live by. It was during this launch that the college cloth was introduced.

Ethos of the College.

The college appears to have a very relaxed atmosphere. The relationships between staff are cordial. For example, teacher educators were sharing stories together as they were preparing for teaching their various lessons.

College's Vision.

An institution of high quality environment for producing well trained, competent and professional teachers.

College's Mission Statement.

To produce academically, socially, morally and practically sound Primary School Teachers that will contribute to the socio-economic and educational development of Malawi.

College's Core Values.

The following are the college's core values;-

(i) Creativity (Resourcefulness, Self-Reliance, Imagination).

The college is creative by accomplishing resourcefulness through wise use of resources at its disposal, striving to be innovative and imaginative through trying out of new ideas to the best advantage and progression.

(ii) Dedication (Punctuality, Hard Work).

Staff members are dedicated to the goals of the college by fulfilling their responsibilities through hard working spirit and diligence to their daily calls, dealing with issues promptly and effectively.

(iii) Lifelong Learning (Adaptability, Sustainability).

The college continuously strive to improve the standards by acknowledging own needs for training, development and taking an active part in staff development and training opportunities, measuring the performance against appropriate benchmarks as a basis for continuous improvement.

(iv) Positive Attitude (Friendliness, Care, Team Work).

There is promotion of cohesion to the community by valuing all individuals equally within a safe environment through elimination of barriers wherever they exist, supporting others when they challenge negative circumstances, ensuring that all representations, activities and services fully reflect a diverse society, sharing responsibility for the success of the institution.

(v) Integrity (Respect, Accountability, Discipline, Cleanliness).

Positive image is maintained by acknowledging and respecting the roles and responsibilities of others, leading by example through an adoption of positive approach, actively promoting the College's Student Code of Conduct, ensuring appropriate dress and appearance.

4.2.4 College D.

Location.

The college is situated in the Central Region of Malawi off M1 Road, in Area 29. It is within the Central West Education Division (CWED).

Brief History of the College.

It is one of the oldest Teachers' Training Colleges in Malawi and was founded by the first President of the Republic of Malawi in 1970.

Human Resources.

This is the largest college in the country in terms of enrolment as it is currently hosting 786 student teachers, of whom 518 are males and 268 are female student teachers. The college has a total number of 54 lecturers most of whom are holding Bachelors' Degrees in Education and a few have Masters Degrees in Education. Of these lecturers, 26 are males and 28 females including the principal.

Environment.

The college is surrounded by several trees that provide shelter during summer seasons. This creates conducive environment for the teaching and learning process. However, the College need to drill student teachers to meet the expectations of the Ministry by looking into the general discipline of learners that has proved to be poor. For instance, poor dressing styles due to the fact that some of the male teacher educators are putting on clothes without ironing them. Some of them resemble herd boys in terms of the outlook such as going to classes with long, uncombed hairs etc. in short,

their behaviour shows that they can easily turn into an angry mob if provoked by the administration in any way regarding failure to meet their demands in time.

Management.

The management is good as observed in the way lecturers are organized. There is cooperation among staff members that helped the researcher to feel most welcome the time of data collection. For example, lecturers could easily strategize by swapping their periods thereby giving the researcher time to observe their lessons in a single day unlike in other Colleges. That is, good managerial skills at this College facilitated the smooth running of the process of data collection.

College's Vision.

The college boasts at high pass rate in national examinations due to different pedagogical skills used during the teaching and learning process such as learner-centred and critical thinking methods. Apart from the use of appropriate methodologies, use of suitable resources in lesson delivery also contribute to high level of academic performance.

College's Mission Statement: The College is committed to producing teachers who are academically well grounded and professionally sound by being imaginative, creative and capable of utilizing locally available resources for the needs of their learners.

College's Core Values.

The following are the core values for this college;-

i) **Creativity:** Use of skills and competence members have.

ii) **Learner Focus:** The success of learners is their aim.

iii) **Resourcefulness:** Members are urged to share new ideas and solutions.

iv) **Adaptability:** The College strive to give the best in every situation.

v) **Lifelong Learning**: The College strongly believe that learning never ends.

vi) **Professionalism:** Possession of knowledge and a social mandate.

vii) **Accountability:** Everybody has to bear the consequences of failure and perform as expected.

viii) **Communication:** The art and technique of using words effectively to share information and ideas.

ix) **Self-Reliance:** Everybody is the owner of his or her own progress.

x) **Respect:** The basis for good communication and collaboration is a respectful behaviour.

4.3 Description of Research Participants.

The study involved fourteen teacher educators who were given the anonymous identities as 1-14, while the colleges involved in the study were given pseudonyms A to D. These teacher educators and their respective colleges are summarized in table 4.1 below.

Table 4.1: Teacher Educators and their Colleges.

TEACHER EDUCATOR	COLLEGE
1	A
2	A
3	B
4	B
5	B
6	B
7	C
8	C
9	C
10	C
11	D
12	D
13	D
14	D

4.4 Demographic information of teacher educators.

The demographic information of teacher educators involved in the study is presented in the sub-sections below:-

4.4.1 Gender of the Teacher educators.

A total of fourteen lecturers were sampled for lesson observations. Out of 14 lecturers, 10 (71%) were males whilst 4 (29%) were females. These findings are indicative of the probability that there may be more male teacher educators than female ones in the teacher education colleges. Such a scenario may have negative impact on the education of female student teachers in the sense that they may lack role models. It is likely that more female student teachers can be easily motivated by the existence of more female teacher educators who are able to teach using critical thinking pedagogies. The findings of the gender for the participants are summarized in Figure 4.1 below;

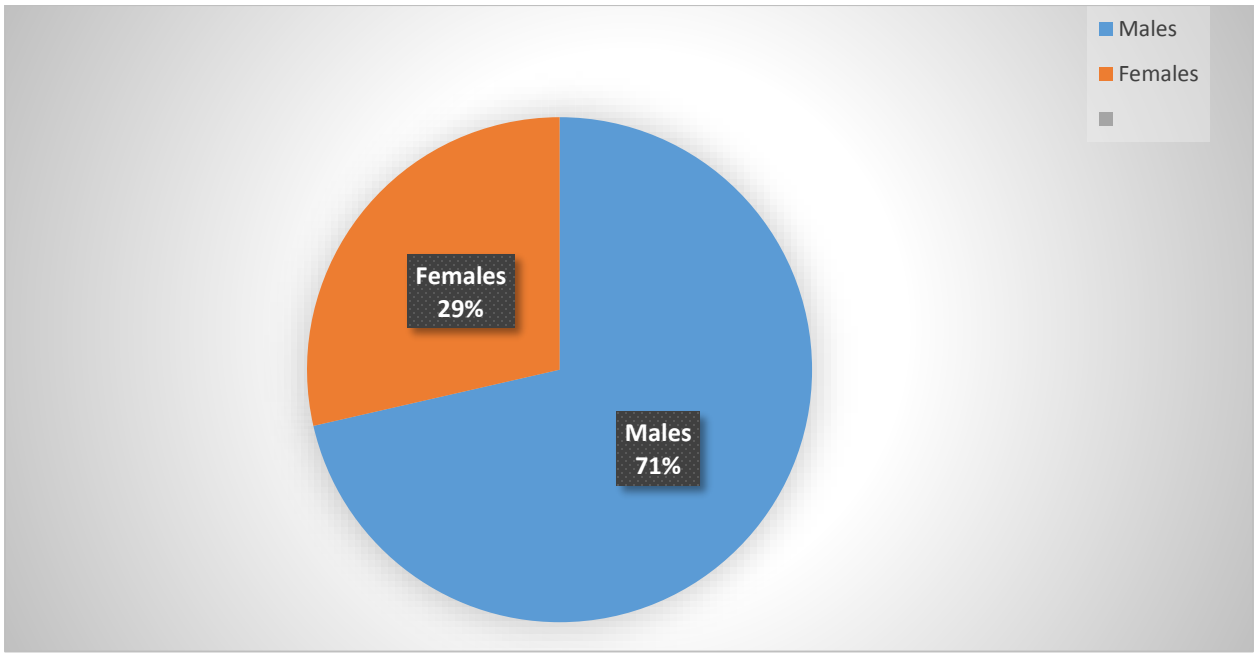

Figure 4.1: Pie-Chart summarizing Gender of the Participants in Percentages.

4.4.2 Age of Teacher educators.

Data revealed that all teacher educator were above 30 years, 4 of the teacher educators ages ranged from 31-40, and 10 teacher educators were above 41 years old. This means that most of teacher educators involved in the study were cognitively mature enough to grasp the concept of critical thinking and its requirements for implementing it effectively. Below is table 4.2 summarizing the ages of teacher educators involved in the study.

Table 4.2: Summary of age of the participants.

Age Range	Number of Participants	Percentage
20-30 Years	0	0%
31-40 Years	4	29%
41 Years Above	10	71%
Total	**14**	**100%**

The fact that most of the participants that were involved in this study were cognitively mature as presented on the table above, the researcher hypothesized that teacher educators will possibly not find much difficulties in integrating critical thinking pedagogies in their training of student teachers in Teachers Training Colleges. However, whether the teacher educators were really able to effectively integrate critical thinking methods in their lessons will be seen in the sub-sections on the findings on the teacher educators' critical thinking practices.

4.4.3 Teacher educators' academic qualification.

Data has revealed that the teacher educators' academic qualifications ranged from Bachelor's degree as their minimum academic qualification to Master's degree as their maximum academic qualification. For example, out of fourteen teacher educators that were involved in the study, twelve teacher educators had Bachelor's degrees and 2 had Master's degrees. That is, data on teacher educators' qualifications revealed that teacher educators were well-educated academically thereby increasing the chances of apparently being more creative during the integration of critical thinking methods in their classrooms.

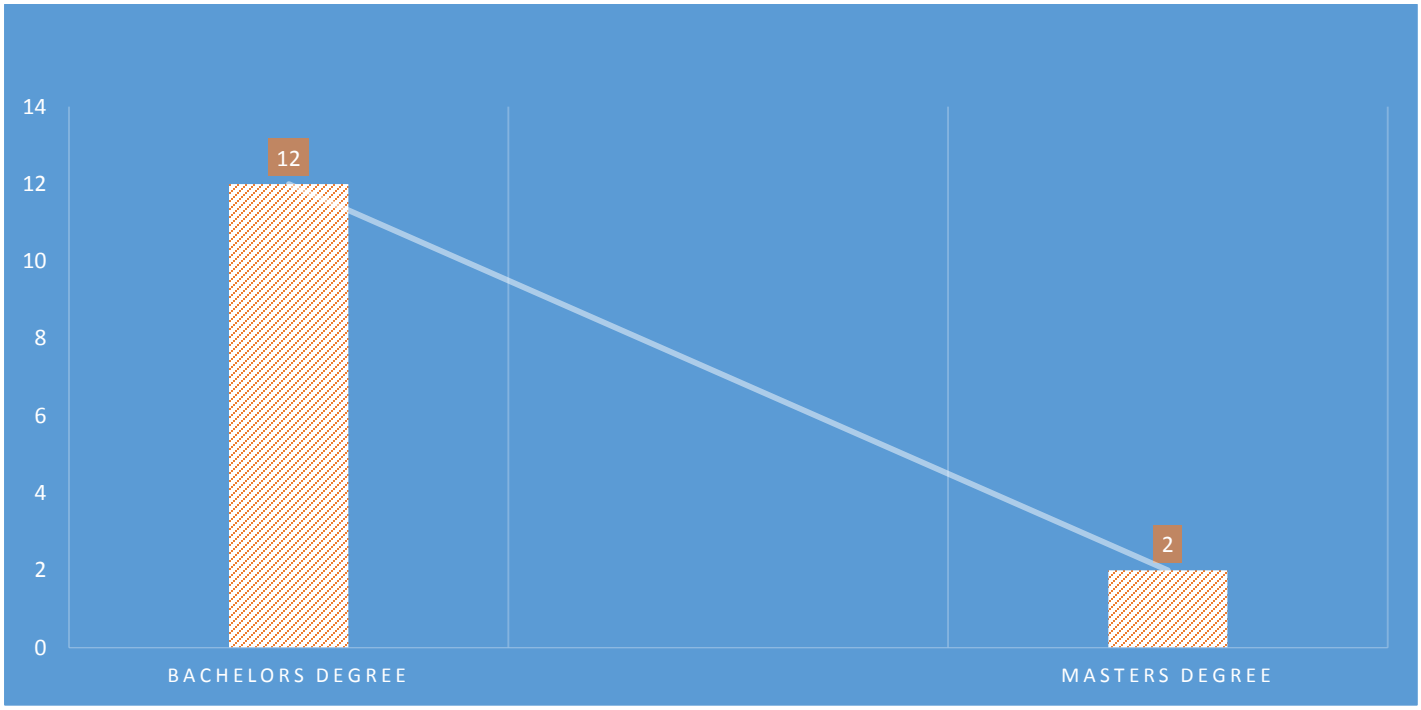

Figure 4.2: Graph showing Academic Qualifications of the Participants.

4.4.4 Teacher educators' professional experience.

The study was also interested in finding out the experience that teacher educators who were observed teaching in the study had. The data shows that 1 (7%) of them had been in the teaching

profession for 5 years, and another 1 (7%) had taught for 11 years, and 3 (21%) for 6 to 9 years, while 9 (65%) had been teaching for over 15 years. The teacher educators' teaching experience is summarized in table 4.3 below;

Table 4.3: Summary of teacher educators' professional experience.

Teaching Experience	Number of Respondents	Percentage
1-5 Years	1	7%
6-9 Years	3	21%
10-14 Years	1	7%
15 Years Above	9	65%
Total	**14**	**100%**

The table above shows that majority of teacher educators involved in the study had relatively long experience in the teaching profession. Basing on the long experience of the teacher educators, the study hypothesized that the teacher educators would effectively integrate critical thinking methods in their lessons. However, the researcher acknowledges the fact that sometimes experience can be a contributing factor to hindering the integration of critical thinking methods in the classroom due to teacher educators' resistance to change as some experienced teacher educators may find it difficult to abandon their old approaches to teaching.

4.5 Findings on teacher educators' integration of critical thinking pedagogies in Social Science subjects.

The study set out to investigate teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Teacher Training Colleges in Malawi. The study had three research sub-questions as follows; Firstly, what is the capacity of teacher educators in integrating critical thinking pedagogies effectively? Secondly, how are teacher educators integrating critical thinking pedagogies in their lessons? And finally, what challenges the teacher educators are facing in integrating Critical thinking pedagogies in their lessons? Teacher educators' capacity to integrate critical thinking pedagogies in their Social Science lessons was investigated through finding out the nature of the status of teacher educators' training in critical thinking and their knowledge of the meaning and importance of critical thinking. The following sub-sections present the findings on teacher educators' capacity to integrate critical thinking pedagogies in their lessons;-

4. 5.1 Teacher educators' training status in critical thinking.

As a way of establishing teacher educators' capacity in integrating critical thinking methods effectively, the study set out to establish the status of teacher educators in critical thinking training. Data revealed that out of fourteen (14) teacher educators whose lessons were observed, thirteen (13) teacher educators were trained in critical thinking and only 1 teacher educator was not trained in critical thinking pedagogies. This means that the majority of teacher educators involved in the study were trained in critical thinking. However, when interviewed about the quality of their training in preparing them to integrate critical thinking methods effectively, the majority of the participants indicated that the training did not equip them adequately with the knowledge that can help them to teach using critical thinking methods with confidence. For example, Teacher educator

13 of college D indicated that, “I have not benefitted anything from the training because I did not understand the methods clearly.” Similarly, teacher educator 14 of college D argued that, “the training did not prepare me effectively to integrate critical thinking in teaching Social Science subjects such as Social and Environmental Studies, and Life Skills because there was a lot of work to be covered within three (3) days scheduled for the training.” These comments signify that the training in critical thinking did not adequately equip the teacher educators with the required knowledge and skills to enable them to integrate Critical Thinking effectively in their lessons.

4.5.2 Teacher educators’ knowledge of the meaning of critical thinking.

On teacher educators’ knowledge about the definition of the concept “Critical Thinking”, data revealed that half (7) participants perceived critical thinking as synonymous with the traditional teaching (teacher-centred) methods interspaced with question and answer method directed at individual student teachers during the teaching and learning process. For example, teacher educator 2 of College A provided this definition of critical thinking, *“they are the usual methods that were used in traditional approach, and nothing has changed”.* This teacher educators’ definition of critical thinking means that some teacher educators have a wrong definition of the meaning of critical thinking. This wrong understanding of the meaning of critical thinking also influenced the nature of the implementation of critical thinking methods. The wrong understanding of the meaning of critical thinking resulted in the teacher educators using the traditional teacher-centred methods and just interspacing them with question and answer methods directed at individual student teachers. However, seven (7) teacher educators had correct understanding of the meaning of critical thinking. These few teacher educators gave the following as meaning of critical thinking:

Firstly, critical thinking methods are the methods that make learners own learning, analyze information, form their own ideas and be active than passive recipients. Secondly, they are methods that give learners chance to participate and contribute in their own learning. Another teacher educator said that, critical thinking methods are the methods that allow learners to analyze situations and ideas before making a decision. The other teacher educator defined critical thinking as the methods that involve learners so that they create meaning of what they are learning on their own. Another teacher educator explained that critical thinking methods are the methods that engage learners in active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it. The last teacher educator but not least stated that critical thinking pedagogies are the methods that allow learners to take charge of the learning process through active participation. Finally, another teacher educator argued that they are active learning pedagogies that provoke thinking and interaction in learners.

This study has thus found that in terms of teacher educators' understanding of the meaning of critical thinking, half (7) of the participants were able to come up with the correct definitions. This shows that they understood the concepts surrounding critical thinking methods and their significance. This means that the other half (7) of the participants had little knowledge about the meaning of critical thinking methods. However, whether the teacher educators' knowledge of the meaning of critical thinking and its significance contributed to their ability to integrate critical thinking methods in their lessons in teaching Social Science subjects is yet to be seen in their teaching practices whose findings are presented in the sub-sections on teacher educators' practices in integrating critical thinking pedagogies in different phases of their lessons.

4.5.3 Teacher educators' knowledge of the aims and importance of critical thinking in Malawian education system.

The study further sought to find out about teacher educators' knowledge of the origin and aims of critical thinking. Data of the study has revealed that, out of the 14 participants that were involved in the study, thirteen (13) participants did not know the origin and aims of critical thinking and only one (1) participant had an idea about the origin and aims of critical thinking methods though not fully. For example, teacher educator 5 of college B had this to say about the origin of critical thinking, *"It originates from the Constructivism Theory".* Thus, some teacher educators' lack of knowledge of the origin and aims of critical thinking methods may have contributed to their being unable to use critical thinking methods in their lessons as they may not have had knowledge of critical thinking pedagogies in teacher education.

Teacher educator 5 who happened to have been the only one who demonstrated knowledge of the origin and aims of critical thinking also happened to have been the one who demonstrated in his teaching effective integration of critical thinking pedagogies. Below, I examine an episode reconstructed from my field notes of teacher educator's integration of critical thinking pedagogies in his lesson. The lesson was conducted by teacher educator 5 of college B on the 28th May, 2019. The lesson began at 14:30 p.m. There were 25 student teachers present that day. As part of the introduction of the day's Life Skills lesson, the teacher educator formally greeted the student teachers and progressed with the lesson as follows:

Teacher Educator 5: *"Find one member in a group who will take his or her note book and a Ball point pen. This member should start by writing down examples of the essential Life Skills he or she knows. Thereafter, he or she should give the note book to a friend next to him or her. The next member of the group should also put down his or her answer but different from what has been*

written down by a colleague up until the last member of the group. Then, the last one to write down his or her answer should get prepared to report the findings of the entire group". [Student teachers made five groups with mixed sex in each group. I listened to the discussions of these groups. There was active participation of student teachers during the discussions. The teacher educator then called group members to present what they had discussed in their groups].

At 14:45: p.m. Teacher Educator 5: *"Anyone from each group, can you come upfront and tell the class what you have discussed in your groups".*

In the extract above, the teacher educator effectively integrated critical thinking methods in his lesson. The teacher educator integrated three critical thinking methods in one task. The first one being '*Group Discussion'* in which he put student teachers into groups and assigned them tasks to discuss. Secondly, by making the notebooks revolving around the group members, the teacher educator used '*Revolution'* critical thinking method. Finally, when presenters went to present their findings, the teacher educator used *'Author's Chair'* as the other critical thinking method. The study has thus found that it is only one teacher educator out of fourteen teacher educators involved in the study who demonstrated effective integration of critical thinking pedagogies in all the three phases of a lesson, thus the lesson introduction, development and conclusion. The ability of the teacher educator to integrate critical thinking pedagogies effectively in his lessons may have arisen from his sound knowledge of the aims and importance of critical thinking as stipulated in the revised IPTE curriculum by the Ministry of Education, Science and Technology. These findings on teacher educators' knowledge of the aims and the importance of critical thinking pedagogies are summarized in figure 4.3 below;-

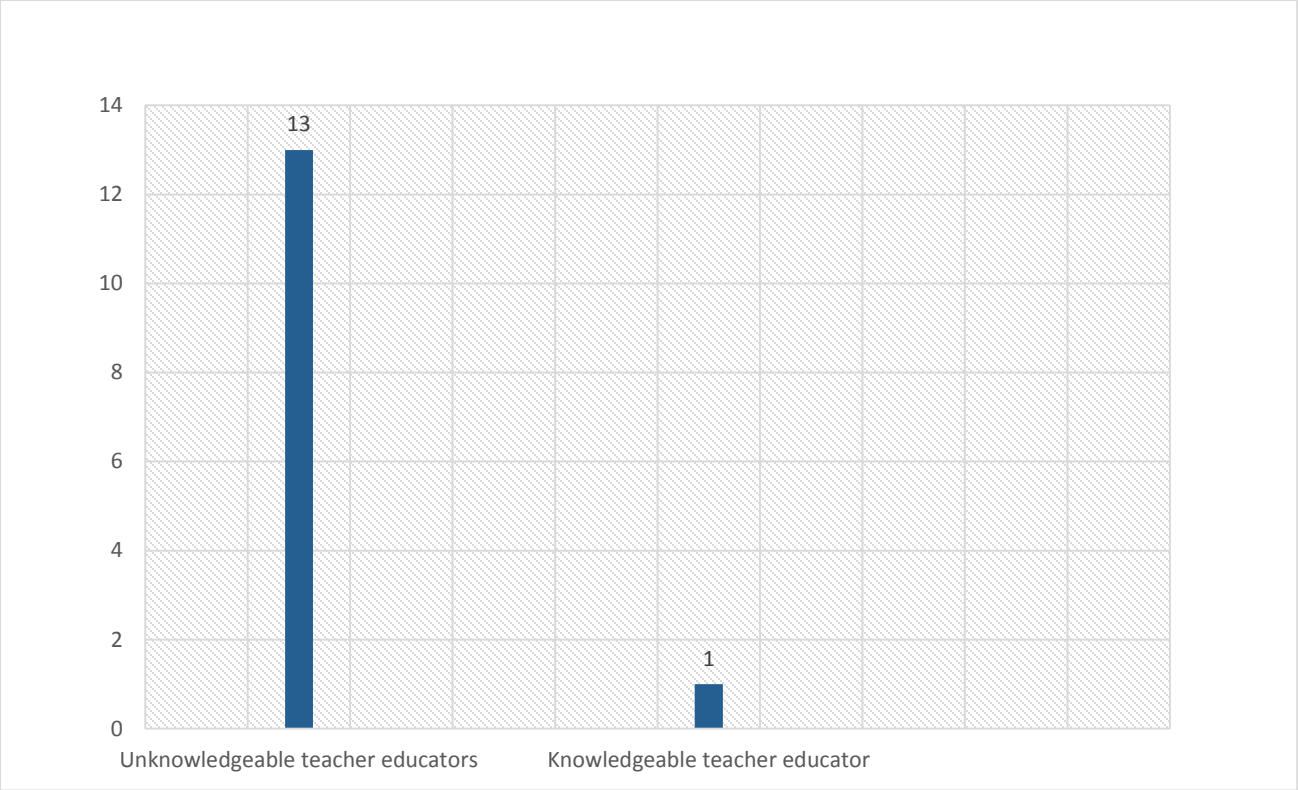

Figure 4.3: Summary of teacher educators' knowledge of the origin, aims and importance of critical thinking pedagogies.

On the status of teacher educators' knowledge of the origin and aims of critical thinking, the data has thus revealed that the majority of teacher educators have no knowledge about the origin, aims and importance of critical thinking in the education system of Malawi. Thus, this lack of knowledge of the aims and importance of critical thinking by teacher educators involved in the study apparently influenced the way they integrate critical thinking, in that their lack of knowledge on the aim of critical thinking made the majority of teacher educators not to see the value of critical thinking methods resulting in the teacher educators not integrating critical thinking methods in

their lessons but instead continued to predominantly use teacher-centred methods such as question and answer, and lecturer methods.

4.6 Teacher educators' knowledge of suitable critical thinking pedagogies for different lesson phases.

The study, through pre-lesson observation interviews also sought to find out teacher educators' knowledge of specific critical thinking methods which can be suitably applied in different phases of the lesson. The findings on the teacher educators' knowledge of the suitable critical thinking methods suitable for the introduction, development and conclusion phases of a lesson are presented in the sub-sections below;-

4.6.1 Teacher educators' knowledge of critical thinking pedagogies suitable for introducing a lesson.

Data revealed that ten (10) out of fourteen (14) teacher educators had knowledge on the suitable critical thinking methods for introducing a lesson. These teacher educators correctly mentioned Think-Pair-Share, Think-Ink-Pair-Share, Walk Around-Talk Around, Know-Want to Know-Learn, Mix-Freeze-Pair, and Share and Pair, as suitable critical thinking methods for introducing a lesson in teaching Social Science subjects.

On the other hand, four (4) teacher educators who mentioned wrong answers had answers such as Instructional Note-Taking System for Enhanced Reading (INSERT), Question and Answer, Fish Bowl, Role Play, Flash Light, Pens in the Middle, Quick Write, Revolution, Survey, Ball Game, Take One-Give One, and Card Clustering and Collection. This wrong mention of the suitable critical thinking methods for introducing a lesson resulted in teacher educators' using of wrong critical thinking methods in lesson introduction

Data has thus revealed that 10 out of 14 participants gave the correct critical thinking methods suitable for the introductory phase of the lesson. This represents 71% of teacher educators who have the knowledge of the suitable critical thinking methods for the introduction stage of the lesson. While 29% of the teacher educators have no knowledge resulting in the use of wrong critical thinking methods in introducing a lesson to student teachers. The study revealed that the majority of teacher educators are able to mention the suitable critical thinking methods for introducing a lesson. Data has revealed that the majority of teacher educators' sound theoretical knowledge of the critical thinking methods suitable for lesson introduction are translated into their ability to integrate these suitable critical thinking methods in their lesson introductions as reported in sub-section 5.7.2 on teacher educators' integration of critical thinking in their lesson introductions. However, it is worth pointing out at the onset of this study's data analysis that, the data has revealed that the majority of teacher educators were unable to integrate suitable methods in the development and conclusion phases of their lessons as well as in the assessment of their student teachers. The data has further revealed that the majority of teacher educators were not able to select and use critical thinking methods which were suitable for specific subject matter they were teaching. The findings on the teacher educators' practices in their integration of critical thinking pedagogies in the different lesson elements are presented in the following sub-sections;-

4.6.2 Teacher educators' knowledge of critical thinking pedagogies suitable for the development phase of the lesson.

When interviewed to mention the critical thinking methods suitable for the development phase of the lesson, 11 teacher educators out of 14 mentioned correctly the suitable critical thinking methods to be used during this phase of the lesson. Those who came up with correct answers had the following responses;- Gallery Tour/ Walk, Bus Stop, Meet in the Middle, One stay-Three

Stray, Jigsaw, Le Café (At the Restaurant), Discussion Web, Trade a Problem, Values Clarification, Silent Participant, Give One-Take One, Academic Controversy, Revolution, Survey, Baobab Tree Competition, Author's Chair, Save the last word for me, Construction Blocks, Instructional Note-Taking System for Enhanced Reading (INSERT), Ball Bearing, and Pens in the Middle.

On the other hand, three (3) teacher educators did not manage to come up with the correct answers on the critical thinking methods which best suit the development phase of a lesson. According to them, critical thinking methods suitable for the development stage of the lesson include, "Quick Write, Think-Pair-Share, Walk Around-Talk Around, Mix-Freeze-Pair-Share, Paired Reading/ Summarizing, and Know-Want to Know-Learn". According to the Ministry of Education, Science and Technology as stipulated in the revised IPTE teacher education curriculum, these critical thinking methods are suitable for introducing and concluding a lesson and not for the lesson development phase.

Thus, the study has revealed that 76% of the participants have correct knowledge of the suitable critical thinking methods for the development stage of the lesson. As such, the researcher hypothesized that majority of teacher educators will be able to include suitable critical thinking methods in their lessons in the development phase of the lessons. However, whether the teacher educators integrated the suitable methods in their lessons during the development phase was one of the aims of this study, and whose findings are presented in sub-section 4.7.3 of this study.

4.6.3 Teacher educators' knowledge of critical thinking pedagogies suitable for concluding a lesson.

The study sought to find out teacher educators' knowledge of the critical thinking methods suitable for concluding a lesson. Data has revealed that only two (2) out of 14 respondents gave the correct answers to the question and indicated *"Quick Write, Author's Chair, What-So What-Now What, Letter to the Author, and Know-Want to Know-Learn"* as the critical thinking methods suitable for concluding a lesson. The majority of the participants however, that is twelve (12) respondents gave wrong answers representing 86% of the respondents with insufficient knowledge on the critical thinking methods suitable for the conclusion phase of a lesson. For example, those teacher educators who gave wrong answers gave the following methods as suitable for the conclusion phase of the lesson: Pens in the Middle, Mix-Freeze-Pair, Give One-Take One, Socratic Questioning, Learning Log, Question and Answer, Free Write, and Walk Around-Talk Around. The teacher educators' wrong theoretical knowledge of the suitable critical thinking methods resulted in their use of wrong critical thinking methods in concluding their lessons. The findings of the study concerning teacher educators' theoretical knowledge of critical thinking methods suitable for different phases of the lesson are summarized in Figure 4.4 below;-

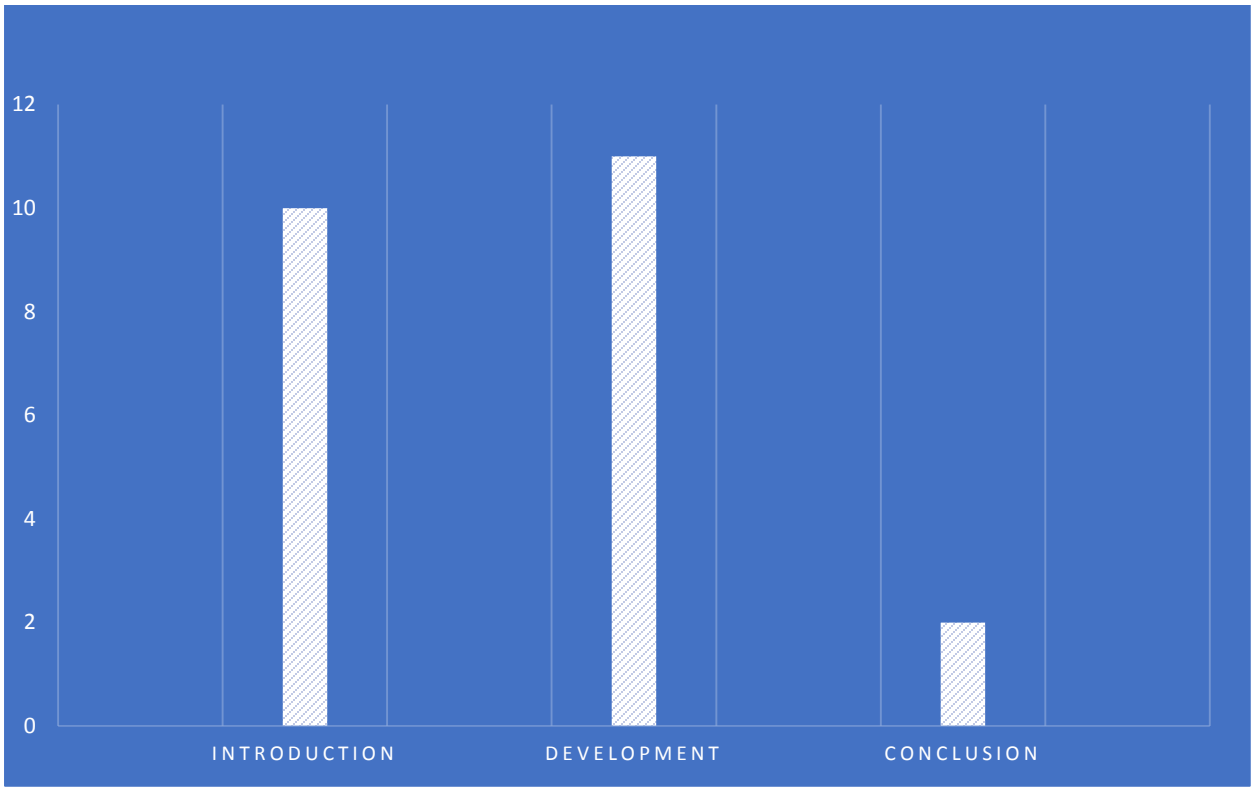

Figure 4.4: Graph showing teacher educators' theoretical knowledge of suitable Critical Thinking pedagogies for different lesson phases.

4.7 Teacher educators' practices in integrating critical thinking pedagogies.

The study investigated teacher educators' practices in integrating critical thinking pedagogies in four elements of a lesson. Firstly, in their lesson preparation documents, that is the schemes and records of work and lesson plans. Secondly, in their lesson introductions. Thirdly, in the lesson development, and fourthly in their lesson conclusion. The study also investigated teacher educators' integration of critical thinking pedagogies in two other important elements of a lesson. These elements include the integration of critical thinking pedagogies which suit specific subject matter or content and the teacher educators' use of assessment strategies or methods that promote

critical thinking. The findings on teacher educators' practices in integrating critical thinking in the different elements of a lesson are presented in the sub-sections below;-

4.7.1 Integration of critical thinking pedagogies in the teacher educators' schemes of work and lesson plans.

The study investigated on whether teacher educators included critical thinking methods in their lesson preparation documents, that is the schemes and records of work, and lesson plans. Two statements were used to investigate whether teacher educators included Critical Thinking pedagogies in lesson plans as well as schemes and records of work. The respondents were asked to indicate 'Yes' if they included critical thinking methods in their lesson preparation documents and 'No' if they did not include critical thinking methods in their schemes and records of work, and lesson plans.

Data revealed that, all the fourteen (14) teacher educators involved in the study included critical thinking methods in their schemes and records of work and lesson plans. However, since studies have shown that what teacher educators say is not always what they do practically in the classroom, the study further investigated the extent to which the teacher educators integrated the critical thinking methods they included in their schemes and records of work and lesson plans in the actual lessons they taught. The study thus also conducted lesson observations of the teacher educators.

4.7.2 Integration of critical thinking pedagogies in the lesson introduction.

The study found that eleven (11) out of fourteen (14) teacher educators included those critical thinking methods prescribed by the Ministry of Education, Science and Technology in their lesson introductions. The following lesson extracts constructed from my field notes illustrates teacher educators' inclusion of critical thinking pedagogies in the introduction phase of their lessons:-

On 30th May, 2019 at around 13:30 hours teacher educator 7 of college C used critical thinking methods to introduce her lesson. There were about 48 student teachers present in the class that day. The teacher was teaching about 'Early Kingdoms in Malawi'.

The extract below constructed from my field notes illustrates the teacher educators' use of critical thinking methods:-

"Can you write down what you learnt yesterday. (After a minute) *Time Up! Can you share what you have written with your partner. (After a minute). Give back the note books to the owner. What have you shared?"*

The teacher educator progressed with the lesson as follows;-

"This afternoon for Social Studies, I want you to tell me some of the ethnic groups of people found in Malawi. So, think about one ethnic group of people found in Malawi and share with your friend. This means that most of you will work in pairs while others you will be in threes. I will give you 1 minute to discuss, then, I will ask you to present to the class what you have discussed."

The above extracts show that teacher educator 7 of college C included *quick write*, and *think-pair-share* during the introductory phase of her lesson.

The lesson further progressed as follows;-

At 13:32 hours student teachers in a chorus: Yao, Lomwe, Tumbuka, Chewa, and Mang'anja.

At 13:34 hours teacher educator 7: *"Listen to the instructions of this important activity. I will be playing music from my laptop and will be pausing at intervals. When I pause, you must listen attentively as I will be asking questions and take note of the questions".*

At 13:40 hours teacher educator 7: Plays music. After sometime, she pauses the music and poses a question and asks the student teachers, *"Mention the earliest Kingdoms to be formed in Malawi".*

At 13:45 hours the teacher educator 7 proceeded with the lesson as follows; - *"Where did the people come from? What factors assisted in the expansion of the Kingdoms stated above? Why did these Kingdoms decline? What did the local people benefit from the Kingdoms?"*

In the extracts above, the teacher educator used *think-pair-share* and *mix-freeze-pair* critical thinking methods interchangeably in the introductory phase of his lesson. According to the Ministry of Education, Science and Technology (2013), Mix/Freeze and Pair is a lively means of having student teachers work with new partners to complete a closely-defined task. The method is used where the teacher educator wants to build social skills among student teachers in class and break the practice of using the same groups all the time.

Likewise, **at 14:32 hours Teacher Educator 11 of College D** in Life Skills progressed with his lesson as follows; - *"This time can you get your pens and exercise books quickly." One of the essential Life Skills is Entrepreneurship, so, what is Entrepreneurship?"*

At 14:33 hours Student Teacher: These are income generating activities.

At 14:35 hours Teacher Educator 11 of College D: *"Thank You! Can you quickly write any five income generating activities that are done in your communities? I am giving you 2 minutes".*

In this lesson extract, the teacher educator used '*quick write'* as one of the critical thinking methods during the introductory phase of the lesson. Although this teacher educator used quick write as one of the critical thinking methods, the method was used inappropriately. This is so because according to the Ministry of Education, Science and Technology's revised IPTE curriculum, this method is supposed to be used during the consolidation or development phase of a lesson. According to the revised IPTE curriculum, 'quick write' enables student teachers to reflect on their learning and document important ideas. The method keeps student teachers active as they jot down ideas on paper (MIE, 2013, p. 22). That is, lack of knowledge on the suitable critical thinking methods to be used when introducing a lesson is being manifested in teacher educators' inability to effectively use critical thinking methods.

Teacher Educator 11 of College D's lesson progressed as follows; - *"Are you done? Stand up! You have to be moving around, when I clap hands, you need to find a partner close to you and share what you have listed down as your answers."*

In the extract above, teacher educator 11 of college D also included *walk around-talk around* critical thinking method in the introductory stage of the lesson. Walk around-talk around is a method in which student teachers share information and construct knowledge within a short period of time. The teacher educator presents a problem and asks student teachers to think about solutions to it. Thereafter student teachers are asked to move round randomly. Upon a hand clap, student teachers stop and share their ideas with the nearest partner. According to Malawi Institute of Education (2013), walk around-talk around motivates student teachers to think independently and share ideas with others.

The study has thus established that the majority of teacher educators are competent in the integration of critical thinking pedagogies in teaching Social Science subjects in the introductory phase of the lesson. The study has further established that the majority of teacher educators involved in the study have both theoretical and practical knowledge of the suitable critical thinking methods for the introduction phase of a lesson. However, although the majority of teacher educators are able to introduce their lessons using critical thinking methods, but the other teacher educators (21%) are unable to do so. It can therefore be argued that, although all teacher educators included critical thinking pedagogies in their lesson preparation documents, some of them did not use them appropriately in some lesson phases such as lesson development and conclusions.

4.7.3 Teacher educators' critical thinking practices in lesson development.

In terms of teacher educators, the study found that almost half of the observed teacher educators (8 out of 14) included critical thinking methods during the development stage of their lessons. The following lesson extracts show inclusion of critical thinking pedagogies by some teacher educators involved in the study;-

On 13th May, 2019 teacher educator 1 of college A was teaching a lesson on the 'early missionaries that came to Malawi' in Social and Environmental Studies. The teacher educator integrated critical thinking methods in his lesson when he asked his student teachers to be in pairs and he said that, *"I want you to pair and brainstorm on any three missionary societies that came to Africa, especially in Malawi".*

The extract above shows that the teacher educator included paired brainstorming as a critical thinking method in teaching Social Studies. According to Ministry of Education, Science and Technology (2013), paired brainstorming is a modified form of the brainstorming method in which

learners generate ideas on a topic and share them with partners before presenting them to the class as a whole. Besides its value in developing cooperativeness among learners, paired brainstorming also develops imaginative and flexible thinking among learners.

Similarly, on 28th May, 2019, teacher educator 3 of college B was teaching Social and Environmental Studies on the topic *"The teaching of Road Safety"* from 10:00-11:00 am. He had 30 student teachers in class. He distributed Teacher's Guides and advised his student teachers to open Unit 21, on page 138. The teacher educator assigned student teachers to discuss how they could teach that passage to primary school learners. The teacher educator thus used Group Work method to make student teachers become active by participating in a lesson. The discussion method promoted critical thinking on the part of student teachers as they were involved in the reading of the entire passage, then they constructed ideas from the reading.

Teacher educator 4 of college B asked groups to state which topic belongs to which element of Social and Environmental Studies (SES). Each group was asked to identify a *silent participant* who would later present the findings of the group. This teacher educator thus included *group discussion,* and *silent participant* as critical thinking methods in his lesson. According to the Ministry of Education, Science and Technology's revised IPTE curriculum, silent participant methods promotes critical thinking in that it engages the group members to construct own ideas and prepare them in the manner that can be easily understood by the silent participant. On the other hand, the method helps the silent participant to listen attentively to the group discussions and prepare himself or herself to present the findings to the whole class. In doing so, the silent participant brainstorms the ideas and make sense out of it. So, the method is beneficial to all group members.

As the lesson progressed, teacher educator 4 included more critical thinking methods in his teaching. For example, the teacher educator asked student teachers to identify any eight concepts which fall under geography, history, economics, anthropology, or civics and government. In this lesson activity, the teacher educator used '*gallery tour'* whereby he allowed his student teachers to move around the classroom checking on each group's findings pasted on the walls all over the classroom. He did this in order to give chance to his student teachers to admire and appreciate what other group members have contributed on the assignment given by the teacher educator. Then, he summarized the topic using '*letter to the author'* method in order to learn from each student teacher on what he or she have learnt on that particular day.

The other teacher educator who demonstrated competence in the integration of critical thinking methods during the development phase of his lesson was teacher educator 5 of college B. This teacher educator had his lesson on 28th May, 2019 from 14:30-15:30 hours and he was teaching Life Skills. He had 25 student teachers in the classroom and he had his student teachers already seated in their pre-arranged groups of five members each. After greeting his student teachers, he asked them to write examples of essential Life Skills they know in a notebook. A notebook was circulating amongst each member of the group up to the last member who later presented the group findings. Student teachers presented responses such as Self Awareness, Decision-Making, Assertiveness, Critical Thinking, Problem-Solving, Self-Esteem, Conflict Resolution, Planning, Entrepreneurship, Creative Thinking, and Resisting Negative Peer Pressure.

In the lesson, the teacher educator used '*Revolution'* critical thinking method as the notebooks were revolving around the group members.

The teacher educator further asked his student teachers to discuss as to how they can design teaching and learning activities and methods as well as resources to develop a particular life skill in their learners. In this task, the teacher educator asked student teachers to develop *'M' Charts* at the top of the essential life skill they have identified. An M-chart promotes critical thinking in that student teachers are encouraged to think beyond the author's initial perspective or knowledge he/she wanted to convey to the readers. The following tables, 4.4(a) and 4.4(b) summarize some of the responses which the groups of the student teachers in the class came up with:

Table 4.4 (a): Resisting Negative Peer Pressure.

Activity	**Pedagogy**	**Resource**
Dramatizing	Demonstration	Learners themselves
Case Study	Reading	Learners themselves
Singing	Think-Pair-Share	Resource person
Story Telling	Speaking	Teacher

Table 4.4 (b): Conflict Resolution.

Activity	Pedagogy	Resource
Role Playing	Demonstration	Learners themselves
Dramatizing	Dramatization	Learners themselves
Singing	Dramatization	Teacher
Story Telling	Demonstration	Teacher Learners themselves

In a summary, in terms of teacher educators' practice in integrating critical thinking methods in the introduction and the lesson development phases of the lesson, the study has found that almost half (8 out of 14) respondents are able to integrate critical methods in development phase of their lessons. However, in terms of the total number of teacher educators that are able to integrate critical thinking pedagogies in their lessons, the data of the study has revealed that the majority of teacher educators are good in integrating critical thinking methods during the introductory phase of the lesson than during the development stage of the lesson.

4.7.4 Teacher educators' practices in using assessment tasks that promote critical thinking.

The study also set out to establish the extent to which teacher educators used assessment tasks which promoted critical thinking. According to Ifanc and Wales (2010), assessment is a vital component of the teaching and learning processes and should be applied creatively to enhance student teachers' understanding and thinking. Ifanc and Wales (2010) further defined critical thinking as an active, questioning, engaged interaction between a teacher educator and student teachers, among student teachers, and within each individual student teacher. As such, critical thinking and assessment are inextricably linked such that the development of one influences the other. That is, both critical thinking and assessment are essential for meaningful teaching and learning. With this view in mind, the study set out to establish the extent to which teacher educators used assessment tasks which promote and develop critical thinking in the student teachers.

Generally, the study has revealed that majority of teacher educators were unable to use assessment tasks that promote critical thinking in their lessons. The data revealed that, twelve (12) teacher educators used questions which required recall of information in their written assessment tasks. For example, teacher educator 14 at college D on the 3rd of June, 2019, in the course of teaching on the topic *'Location'* in Social and Environmental Studies, the teacher educator asked his student teachers to define the following terms; Longitudes, Latitudes, Prime Meridian, and the Greenwich Meridian. This exercise shows that teacher educators used simple recall questions as assessment tasks to student teachers. This type of assessment tasks characterized most of the lessons observed in this study, and they did not promote critical thinking in student teachers.

4.7.5 Teacher educators' selection of critical thinking pedagogies suited to the subject matter.

The study also set out to investigate the extent to which teacher educators selected and used critical thinking methods which best suited the subject matter which they were teaching. The study found that eight (8) out of fourteen (14) participants demonstrated adequate knowledge in the selection of suitable critical thinking methods for teaching specific subject matter. This means that six (6) participants showed lack of adequate knowledge in the selection and usage of suitable critical thinking methods related to the subject matter. Some of the examples of those who demonstrated adequate knowledge in the selection of suitable critical thinking methods include teacher educator 1 of college A who used paired brainstorming , move around-talk around, and revolution methods in teaching Social and Environmental Studies on the topic "The Early Missionaries that came to Malawi".

Similarly, teacher educator 3 of college B had group work, author's chair, le café (restaurant), know-want to know-learn in teaching Social and Environmental Studies on the topic "Road Safety". Likewise, teacher educator 7 of college C used think-pair-share, mix-freeze-pair-share in Social and Environmental Studies on the topic of "The Early Kingdoms in Malawi". Teacher educator 9 of college C in Life Skills class also employed case study, and paired brainstorming methods. Finally, teacher educator 10 of college C used group discussion, and author's chair in teaching Life Skills on the topic about "Essential Life Skills" in the two combined classes.

Thus the study has found that half (8 out of 14) participants were able to integrate critical thinking pedagogies which best suited the teaching of Social Science subjects including Social Studies, and Life Skills. For example, according to the Ministry of Education, Science and Technology (MoEST, 2013, pp.14-23), paired brainstorming, move around-talk around, revolution, group work, author's chair, le café (at the restaurant), know-want to know-learn, think-pair-share, mix-

freeze-pair-share, and case study are argued to be some of the best critical thinking methods for teaching Social Science subjects. This shows that generally almost half of the teacher educators involved in the study have the required Shulman's (1986) pedagogical content knowledge an educational concept which this study was also interested in exploring amongst teacher educators. On the other, Critical Thinking emanated from the Pedagogy of the Oppressed which is Learner-Centred.

4.7.6 Teacher educators' critical thinking practices in concluding a lesson.

The study further sought to investigate teacher educators' practices in integrating critical thinking methods for concluding a lesson. Data revealed that half (7) of the teacher educators were able to conclude their lessons with the inclusion of critical thinking methods and the other half (7) of teacher educators did not integrate critical thinking methods during the conclusion phase of the lesson. For example, teacher educator 10 at college C was teaching on 'Essential Life Skills' in Life Skills. The teacher educator was teaching at around 14:55 hours on 31st May, 2019 and in concluding her lesson, the teacher educator asked her student teachers to state the essential life skills that the student teachers learnt on that particular day. The question asked by the teacher educator demanded student teachers to recall what they have learnt. However, as she was progressing with the conclusion of her lesson, the teacher educator asked her student teachers to explain how essential life skills can help primary school learners. According to the revised IPTE curriculum, the *'how'* questions help in provoking the minds of student teachers thereby promoting their critical thinking.

The teacher educators' practices in their integration of critical thinking pedagogies in the introduction, development, assessment and conclusion phases is summarized in figure 4.5 below;

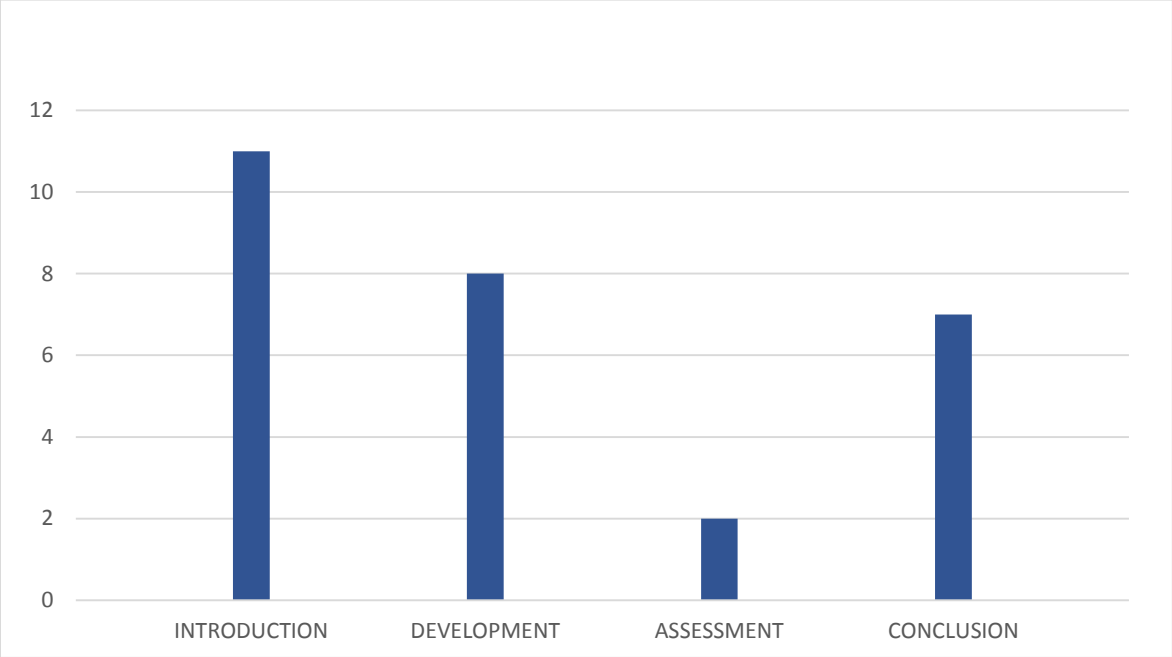

Figure 4.5: Graph showing teacher educators' integration of Critical Thinking pedagogies in different phases of the lesson.

The above graph shows that teacher educators are able to integrate critical thinking methods only during the introduction and development stages of the lesson. This means that teacher educators are facing a lot of challenges in integrating critical thinking pedagogies to assess the learning of student teachers, and in concluding their lessons. Furthermore, the study has revealed that majority of teacher educators have limited knowledge of critical thinking methods suitable for specific phases of a lesson except for the introduction phase of a lesson. This limited knowledge of a variety of critical thinking methods forced teacher educators in all the colleges involved in this study to use similar critical thinking methods and shunning away from other critical thinking methods. For

example, throughout the study, teacher educators predominantly used author's chair, group work, paired brainstorming, and walk around-talk around in their various phases of their lessons.

Thus, the study found that teacher educators are not familiar with some of the critical thinking methods including structured overview, Instructional Note-Taking System for Enhancing Reading and Thinking (INSERT), paired reading/ paired summarizing, jig saw, one stay-three stray, academic controversy, role play, drama, save the last word for me, debate, value line, what- so-what-now-what, dual entry diary, and Socratic questioning. The findings concerning the extent to which teacher educators used critical thinking in their lessons observed in the study is summarized in table 4.5 below;-

Table 4.5: A Summary of Critical Thinking pedagogies used by teacher educators in the observed lessons in the Study.

Pedagogy.	**Frequency in the lessons observed.**
Author's Chair	13
Ball Bearing	3
Case Study	2
Gallery Tour/Walk	3
Group Work	22
Know-Want to know-Learn	4
Le Café /At the Restaurant	2
Letter to the Author	7
Make an Appointment	2
Mix-Freeze-Pair-Share	4
Paired Brainstorming	15
Pens in the Middle	2
Think-Pair-Share	9
Walk Around-Talk Around	12

4.8 Challenges teacher educators face in integrating Critical thinking pedagogies in their training of student teachers.

The aim of this study was also to investigate teacher educators' integration of critical thinking pedagogies as stipulated in the revised IPTE curriculum. One of the sub-research questions of the study was to find out the challenges teacher educators face in integrating Critical Thinking pedagogies in teaching Social Science subjects in Teacher Training Colleges. The findings of the study as regards to the challenges faced by teacher educators are discussed in terms of comparing the Ministry of Education, Science and Technology's expectations in the implementation of the critical thinking methods in the revised IPTE curriculum and the way teacher educators are actually implementing critical thinking methods in their classrooms. Finally, findings on the ways on how the challenges faced by teacher educators can be mitigated to improve the implementation of the critical thinking methods in the revised IPTE curriculum are presented in the sub-sections below;-

4.8.1 Inadequate orientation/training of Critical thinking.

One of the strategies put into place by the Ministry of Education, Science and Technology towards ensuring that critical thinking gets institutionalized at different levels of the education system in Malawi was to train a team of experts in critical thinking methods in the country. Besides providing a general critical thinking orientation to different people at the inception of the initiative and intervention such as education methods advisors, curriculum specialists, examinations officers, teacher trainers, publishers of educational materials, and members of the media houses, there was need to have a group of teacher educators who would train their fellow teacher educators and other personnel at different levels. Educators were therefore to undergo a four phase training course facilitated by international critical thinking team certified by Reading and Writing for Critical Thinking (RWCT) consortium as explained in the sub-section 3.2.1.

The study has found that the training of teacher educators in critical thinking was ineffectively done because of insufficient time, inadequate critical thinking materials, and the use of cascade model by the curriculum developers, the Malawi Institute of Education. Thirteen out of fourteen teacher educators stated that time for the training was inadequate. Followed by the issue of inadequate time, eleven out of fourteen teacher educators cited insufficient critical thinking materials to support the training as another main challenge. The use of the cascade model by the curriculum developers was also mentioned by four teacher educators to have contributed to the ineffective orientation in critical thinking methods because only few teacher educators were oriented by the experts from the Malawi Institute of Education and the rest of them were oriented by fellow teacher educators who were ineffectively oriented themselves as well.

Cementing the idea of inadequate time allocated to the training in critical thinking, teacher educators further argued that they received training for three to five days only, which did not equip them with adequate knowledge and skills of effectively integrating critical thinking in their lessons. As a result, majority of teacher educators are not able to use critical thinking pedagogies effectively.

4.8.2 Use of unsuited Critical thinking pedagogies to lesson phases.

Data revealed that teacher educators employed unsuitable methods for the assessment and the conclusion phases of lessons thereby failing to promote critical thinking among the student teachers. The most notable example of teacher educators who used wrong teaching methods was teacher educator 2 of college A, who used monotonously individual Question and Answer method to assess student teachers throughout the lesson. The other teacher educator who integrated wrong critical thinking method in assessing student teachers was teacher educator 10 of college C. The teacher educator used letter to the author method during the concluding phase of her lesson.

According to the Ministry of Education, Science and Technology (2013), letter to the author is a suitable critical thinking method for lesson development. Consequently, the wrong usage of the critical thinking methods did not assist to develop the critical thinking skills in student teachers and also their knowledge of the relevant critical thinking methods at different phases of the lesson, knowledge which they would need for effective integration of critical thinking pedagogies as they will be teaching in the primary schools.

Similarly, teacher educator 12 of college D concluded her lesson using '*Walk Around-Talk Around'* critical thinking method. The teacher educator in this case used an unsuitable critical thinking method for the conclusion phase of a lesson.

From the examples cited above, the study concludes that most teacher educators used critical thinking methods without consideration of the phase of the lesson where they were best suited. The Walk Around-Talk Around method is used in the introductory phase of a lesson. This means that the majority of teacher educators have challenges in using the most suitable methods for some specific phases of a lesson.

4.8.3 Insufficient teaching and learning resources for facilitating use of critical thinking pedagogies.

Ministry of Education, Science and Technology expected that Teacher Training Colleges should have enough teaching and learning resources for the implementation of the revised primary school curriculum and its related innovations like critical thinking methods (MoEST, 2017). Teaching resource is anything that promotes teaching and learning when a teacher is teaching. They include textbooks, newspapers, pictures and charts, maps, models, real objects, resource centers, audio-

visual devices and chalkboard. According to MoEST (2017), these resources help student teachers to learn faster and easier and remember what they have learnt.

In terms of availability of teaching and learning resources for facilitating the use of critical thinking methods by the teacher educators, the study found that the colleges involved in the study do not have enough teaching and learning materials to facilitate teacher educators' use of critical thinking pedagogies in the classroom. Expressing her concern on the same, the principal of college D complained that the college has acute shortage of critical thinking teaching and learning materials despite of its proximity to the Ministry of Education, Science and Technology thereby leading to challenges for teacher educators to effectively integrate critical thinking methods in their lessons.

4.8.4 Critical thinking pedagogies are time consuming.

The data revealed that critical thinking methods are time consuming. This became evident as teacher educators pointed out clearly that they direct their energy to cover the syllabus so that student teachers should do well during the Malawi National Examinations Board (MANEB). Teacher educators complained that some critical thinking methods require a lot of time to both prepare for and in the actual process of using them. Sometimes some experienced teacher educators who have taught for some years will have developed ways of doing things which they have found to work for them in their situations. Consequently, they may be reluctant to abandon new approaches in which they may not feel secure to use because of being afraid to fail using them effectively thereby making them resist to adopt the changes.

4.8.5 Critical thinking pedagogies lack parental support for effective use by teacher educators.

According to the Ministry of Education, Science and Technology (2013), the effective implementation of the new IPTE curriculum requires that the community should support the colleges in teaching and learning related activities which will promote critical thinking in order for teacher educators to effectively implement critical thinking. The data has revealed that, the information about critical thinking methods initiative is not shared to other educational stakeholders such as parents. As such, it becomes difficult for parents to be convinced for example to purchase smart phones which are necessary for critical thinking methods to work effectively.

According to Ministry of Education, Science and Technology (2013), I-Search is a learner-directed inquiry process that utilizes a systematic plan to solve problems. Learners are moved by curiosity to ask questions, which results in the undertaking of a systematic procedure to collect, analyze, interpret and present results. They formulate a research question, prepare a research plan, collect, analyze and interpret data and present results in a research paper. For example, smart phones can be used in I-Search critical thinking methods. These processes develop student teachers' critical thinking skills.

I-Search therefore "empower learners by making their self-selected questions about themselves, their lives, and their world the focus of the research and writing process". This implies that encouraging the I-Search method in teaching Social Sciences can be a rewarding critical thinking learning experience for learners. In agreement with this line of thinking, Mahlangu (2000) blames the society for the failure to create conducive conditions for success in educator practices, yet it expects them to be excellent. The study therefore recommends that, for effective integration of

some critical thinking methods, requires parents to give a hand in the education of the student teachers such as buying of smart phones for their wards.

4.8.6 Critical thinking pedagogies require enough classroom space.

In an attempt to find out more challenges experienced by teacher educators in integrating critical thinking methods, the data revealed that effective use of critical thinking methods by teacher educators is affected by lack of classroom space. For example, teacher educator 2 of college A had to conduct Walk Around and Talk Around critical thinking method outside the classroom when he taught the Social and Environmental Studies topic on "the missionaries that came to Malawi." These findings are in consistence with Biddle and Berlinder (2002) who argue that student teachers whose class size is small are more likely to achieve higher than those from large classes. That is, the contemporary classrooms need to have sufficient space for effective teaching and learning.

4.8.7 Some Critical thinking pedagogies pose inherent challenges for special needs student teachers.

Kirk and Gallagher (2000) maintain that, providing an effective education for all is arguably the biggest challenge facing teacher education worldwide particularly in Africa. Despite the efforts made to improve the provision of special education services, the current educational institutions are still far from addressing the needs of every student teacher. The classrooms are filled with class-level textbooks, class-level lessons, and class-level expectations that assume that student teachers deviate very little from their age norm. Kirk and Gallagher (2000) further argue that adapting to educational programmes is one of the major challenges that are faced by student teachers with special needs when integrated in the regular classrooms. In this regard, the study sought to find out the extent to which some critical thinking methods pose inherent challenges for

special needs student teachers to actively participate in the teaching and learning activities in which they are employed.

The findings of the study have shown that some critical thinking methods are not user friendly to student teachers with special needs. For example, wheel-chaired student teachers, cannot fully and actively participate in other teaching and learning activities that require mobility by student teachers such as '*walk around-talk around, gallery tour, le café or at the restaurant'* and other critical thinking methods.

Summary.

This chapter has presented the key findings of the study and the possible solutions to the challenges faced by teacher educators in integrating critical thinking methods. The study has revealed that majority of teacher educators have insufficient knowledge on the origin and aims of critical thinking. This lack of enough knowledge has contributed to a number of problems that teacher educators encounter in the course of integrating critical thinking methods in their lessons. The problem of having little knowledge on the origin and aims of critical thinking has been aggravated by the insufficient training in critical thinking received by teacher educators. As a result, majority of teacher educators are unable to include critical thinking methods during some specific phases of their lessons such as development and conclusion phases. These findings agree with Uiseb (2009) who confirms that lack of adequate training of teacher educators hampers the successful integration of critical thinking in the teaching of Social Science subjects.

Furthermore, majority of teacher educators are using wrong methods interspaced with question and answer methods, lecture methods, explanation methods just to mention a few. These methods are placing student teachers at a disadvantage because they rely much on the teacher educator to

read more and bank his or her knowledge in their heads instead of allowing them to construct their views on the given task. This is what Freire (2000) in his theory of the Pedagogy of the Oppressed said it is adopting the kind of education offered by the oppressor or, indeed, being filled up like an empty vessel. The other problem is that there is acute shortage of teaching and learning materials in all Teachers Training Colleges that has hampered the integration of critical thinking pedagogies by teacher educators.

CHAPTER 5: DISCUSSION OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS.

5.1 Introduction.

Chapter 5 presented the key findings of the study. This chapter therefore discusses these key findings in relation to the literature reviewed in this study. The chapter also gives a brief summary of the whole study in terms of the purpose of the study, how it was carried out and the conclusive answer to the main research question. The chapter further considers the academic contribution of this study. Finally, the chapter identifies issues arising from the research that require further investigation.

5.2 Discussion of the Findings.

5.2.1 Ineffective teacher educators' training in Critical thinking.

The study set out to investigate teacher educators' capacity and their actual practices in integrating critical thinking pedagogies effectively in the classroom. In order to find out their capacity to integrate critical thinking, the study investigated the nature of the status of teacher educators' training in critical thinking, their knowledge of the origin, meaning and importance of critical thinking, and suitable critical thinking pedagogies for different lesson phases. The findings on the teacher educators' capacity to integrate critical thinking pedagogies in the lessons are discussed in the sub-sections below;-

5.2.2 Teacher educators' ineffective training in critical thinking.

As a way of establishing teacher educators' capacity in integrating critical thinking methods effectively, the study set out to establish the status of teacher educators' training in critical thinking. Data has revealed that the orientation of teacher educators to critical thinking was ineffectively done because of the use of the cascade model. The cascade model made teacher

educators to be ineffectively oriented because only few teacher educators were oriented by the curriculum developers, the Malawi Institute of Education and the rest were oriented by fellow teacher educators at college level who were ineffectively oriented. Thus, the cascade model resulted into ineffective integration of critical thinking in their lessons because teacher educators did not have first-hand information from national trainers in critical thinking.

These findings concur with Rembe (2006) who argued that the cascade model of training has been faulted for dilution of information and is ineffective in empowering teacher educators to teach new innovations in a curriculum reform. Rembe (2006) further observes that, the cascade training strategy of teacher educators is sub-standard in the sense that the majority of teacher educators depend on the competence and skills of teacher educators who are themselves second-hand recipients of information. In his study of the implementation of a curriculum in Zimbabwe, Rembe (2006, p. 243) notes that the cascade strategy of training teachers is disappointing because few teachers are chosen and receive training and they in turn train others in schools and this leads to the required information not being transmitted properly and it consequently fails to equip teachers with the requisite skills.

Rembe's (2006) study also agrees with Passe (2006) and Thornton (2005) who argued that the effective implementation of critical thinking is affected by poor preparation of teacher educators. Passe (2006) also argued that teacher educators are not comfortable to handle content that was not effectively addressed during their orientation. Yeager and Wilson (1997) shared the same view-point that in-service programmes help in shaping teacher educators' knowledge and classroom practices. Indeed, the implementation of a curriculum innovation requires great skills, preparation of teachers in both content and pedagogical knowledge (Thorntorn, 2005). Fullan (1991) as well

shares the same view-point about the importance of teacher development in ensuring effective implementation of a curriculum innovation.

5.2.3 Inadequate teacher educators' knowledge of the importance of critical thinking methods.

The study sought to find out teacher educators' knowledge of the meaning and importance of critical thinking. The research findings have revealed that half (7 out of 14) participants viewed critical thinking as synonymous with the traditional teaching (teacher-centred) methods interspaced with question and answer method directed at individual student teachers during the teaching and learning process. This inadequate knowledge of the meaning and importance of critical thinking resulted in the teacher educators using the traditional teacher-centred methods and just interspacing them with question and answer methods directed at individual student teachers.

In general, the study has revealed that majority of teacher educators are facing a lot of challenges in integrating critical thinking methods in their lessons. These findings are in consistence with Kliime, Zmuda, and Kuklis (2004) who confirm that lack of a comprehensive knowledge base may make it difficult for pedagogical knowledge to have a worthwhile and extensive impact upon practice in the classroom. Practically, it is difficult for the teacher educators who do not have adequate knowledge about the meaning and importance of critical thinking to use critical thinking methods effectively in the classroom.

5.2.4 Use of unsuitable Critical thinking pedagogies in lesson phases.

The study has found that the majority of teacher educators have theoretical knowledge of the suitable critical thinking methods to be employed during the introductory stage of the lesson and the development phase of the lesson. The study also found that the teacher educators were able to

translate their theoretical knowledge successfully to their practical teaching in the classroom in the introduction and development phases of the lessons but not necessarily in the conclusion of their lessons.

Furthermore, the study has found that very few teacher educators are able to use assessment tasks that promote critical thinking. These findings are consistent with the studies conducted in Namibia where the instruction was done in a teacher-centred approach, which was unproductive and frustrating for most of the student teachers in colleges (Ministry of Education and Culture, 1993, p.10). On teacher-centred approach, teacher are regarded as experts in the discovery of facts, and their responsibility is to transmit knowledge to students, who are expected to reproduce what they have learned (Le Grange & Reddy, 1998, p.6). That is, teachers are viewed as the agents of all aspects of teaching practice, which lead to passive participation by students in the classroom. The result is that there is rote learning taking place in the classroom and students are required to memorize facts without comprehending them. Rote learning does not help to promoting critical thinking in students.

5.2.5 Lack of use of assessment tasks which promote Critical thinking.

The study found that the majority of teacher educators were unable to use assessment tasks that promote critical thinking. Teacher educators mainly used assessment tasks which required simple recall of information and facts. These assessment tasks were not able to promote critical thinking amongst student teachers.

5.2.6 Inadequate teaching and learning resources for using Critical thinking methods.

The study has revealed that there are inadequate teaching, learning materials in all the Teacher Training Colleges that were involved in this study. For instance, a principal of college D

complained that the college has critical shortage of teaching and learning materials despite its proximity to the Ministry of Education, Science and Technology thereby leading to challenges for teacher educators to use critical thinking. The study also found that all the college principals involved in the study complained about critical shortage of teaching and learning materials. The finding is in consistence with Cheplogoi (2014) who argues that, teaching and learning materials are part of the factors that affect the effective implementation of a curriculum innovation.

Similarly, Mgomezulu and Wamba conquer with Cheplogoi who observed that, the scarcity of textbooks means that student teachers may not be able to practice reading, writing, and arithmetic or increase their knowledge beyond classroom (Mgomezulu & Wamba, 2014). Likewise, Hooghoff (1993) and Chapin and Messick (2002) argue that lack of teaching and learning resources forces teacher educators to use direct methods of teaching such as lecturing, in most of their classroom time. Similarly, Luykx (1999) noted that Bolivian schools faced serious shortages of material resources and this affected the teaching and learning process. McLaughlin and Talbert (1990) as well observed that material resources are one of the major factors that influence teachers' effective classroom practices. That is, inadequate resources affect teacher educators' effectiveness in teaching.

Adeyinka (2000) argued that once teacher educators know their content area to teach, the next stage is the selection of resources for effective organization of classroom practices. Unfortunately, material resources are not readily available in developing countries (UNESCO, 2000). Therefore, this study recommends that for the critical thinking pedagogies to be effectively used by teacher educators the Ministry of Education should ensure that the instructional materials for the curriculum are made available in the teacher education colleges.

5.2.7 Some critical thinking pedagogies are time consuming.

The study found that the majority of teacher educators complained that some critical thinking methods require a lot of time for one to prepare in terms of preparing the teaching and learning resources and even during the delivery of the lesson hence they do not often use them. The teacher educators cited INSERT, Jigsaw, Role Play, and Value Line as requiring a lot of time to effectively prepare for their use as well as consuming more time in using them in the actual teaching and learning process.

The finding concurs with a study by Mizrach, Padilla, and Susuwele-Banda (2010) who found that teachers rush through their teaching because they want to prepare their students for high stakes national examinations. Mizrach, Padilla, and Susuwele-Banda (2010) further argued that the examination system in Malawi is high stakes; promotions to the next level of schooling are based on the performance of student teachers during the examination. This poses obstacles when trying to integrate active-learning or learner-centred pedagogies into the classrooms, because often these pedagogies are seen as being ineffective in preparing student teachers to pass the examination, which is the priority for majority of teachers, including parents.

5.2.8 Lack of parental support to facilitate use of critical thinking pedagogies by teacher educators.

The use of computer technology in colleges has increased dramatically in recent years and shows few signs of slowing down (Cooper, 2006, p.190). However, data has revealed that the information about critical thinking methods initiative is not shared to other educational stakeholders such as parents. As such, it becomes difficult for parents to be convinced for example to purchase smart phones which are necessary for critical thinking methods to work effectively.

The finding is similar to Mahlangu (2000) who blames the society for the failure to create conducive conditions for success in educators' classroom practices, yet it expects them to be excellent. As a result, educators are unsure of changes that are worth implementing. Therefore, for the effective use of the I-Search critical thinking method parents are required to play their role in making sure that they should purchase smart phones and even laptops for their wards in teacher education colleges.

5.2.9 Critical thinking pedagogies require enough classroom space.

The study has revealed that effective use of critical thinking methods by teacher educators is affected by lack of classroom space. This finding is in line with Biddle and Berlinder (2002) who argue that students whose class size are small are more likely to achieve higher than those from large classes. That is, the contemporary classrooms need to be self-contained to accommodate the growing number of student teachers in each class.

5.2.10 Some critical thinking pedagogies pose inherent challenges for special needs student teachers.

The study sought to find out the extent to which some critical thinking methods pose inherent challenges for special needs student teachers to actively participate in the teaching and learning activities in which they are employed. The study has revealed that some critical thinking methods are not friendly to student teachers with learning disabilities. Thus, learners with special needs are not taken on board thereby making them feel uncomfortable. These findings are in consistence with Kirk and Gallagher (2000) who observe that, providing an effective education for all is arguably the biggest challenge facing Teacher Training Colleges worldwide particularly in Africa.

It has been observed with great shock that, in most cases when planning for a lesson, regular teacher educators usually focus most if not all of their attention on the regular student teachers. This makes their lesson fall short of methods and materials that address the needs of certain groups of student teachers. In contrast, Tom et al (2004) maintain that teaching all student teachers the same way will not be effective for most student teachers especially those with disabilities. To address this challenge, a teacher educator should use other methods that are friendly to student teachers with learning difficulties. Similarly, Favazza et al (2000) stipulate that, student teachers with special needs are truly included in their classroom only when their teacher educators and peers appreciate them. Therefore, there is need for teacher educators to create a positive environment where the classroom becomes a community in which each member is socially accepted.

5.3 Purpose of the study.

The main aim of this study was to investigate teacher educators' integration of critical thinking pedagogies in Social Sciences in teacher education colleges in Malawi. In order to establish teacher educators' integration of critical thinking, I drew on Paulo Freire's (2000) theory of the Pedagogy of the Oppressed and Shulman's (1991) theory of Pedagogical Content Knowledge (PCK) which informed the study. The purpose was to investigate teacher educators' integration of critical thinking pedagogies in four teacher education colleges, two from the Southern region and the other two colleges from the Central region of the country.

5.4 An analysis of the methodology used in the Research.

The greater part of the research was confined to classrooms, to learn how teacher educators are integrating critical thinking at classroom level. Following a qualitative research design, data was

collected through document review, face to face interviews with the college principals and teacher educators and classroom lesson observations of the teacher educators in order to provide methodological triangulation of the data. Data was analyzed using thematic approach.

The study had one limitation that occurred most particularly during the process of data collection. The researcher's initial plan was to widen the data base by including observing teacher educators in Religious Studies. However, Religious Studies was not offered due to the modular approach followed by teacher education colleges. As a result, the researcher observed lessons only in Social Studies and Life Skills.

5.5 The main research question: What are teacher educators' critical thinking pedagogical practices in their training of primary school teachers in Malawi?

The study found that the majority of teacher educators have insufficient knowledge on the aims and importance of critical thinking. This lack of sufficient knowledge has contributed to a number of challenges in teacher educators' integration of critical thinking methods in their lessons. The challenges of teacher educators' knowledge gap on the aims and importance of critical thinking has been aggravated by the insufficient and ineffective training in critical thinking received by teacher educators. As a result, the majority of teacher educators are unable to include critical thinking methods during some specific phases of their lessons especially assessment and conclusion phases. For those teacher educators who make some effort to include critical thinking methods in their lessons, they use unsuitable methods for specific lesson phases. The study further found that the majority of teacher educators were not able to use assessment tasks which promote critical thinking but they predominantly use lower levels of assessment tasks which focused on simple, parochial recall questions.

5.6 Contribution to knowledge.

The study on investigating teacher educators' integration of critical thinking pedagogies in the teaching of Social Sciences in teacher education colleges is important to the education community because the curriculum innovation has just been introduced in Teacher Training Colleges in Malawi. The study is apparently one of the first of its kind and has therefore helped in revealing teacher educators' classroom practices in integrating critical thinking pedagogies. The study has also revealed some of the challenges facing the integration of critical thinking, early in the curriculum's implementation stage. The findings of the study have several contributions to different education stakeholders. Firstly, the results of this study have the potential of helping college managements to find ways of overcoming the challenges facing teacher educators' integration of critical thinking in the classroom. Secondly, the findings of the study have the potential of helping the Ministry of Education, Science and Technology to add to their knowledge bank of the challenges facing the integration of critical thinking in Malawi and may use the findings in solving the challenges and improving the curriculum's innovation implementation strategies.

Thirdly, the study can further help teacher educators who took part in the research by providing them with useful reflection on their practices in the integration of critical thinking and the challenges they are facing. This information can help them to improve the integration of critical thinking. The study can also help me as an educator with important information about some of the most possible effective ways of integrating critical thinking in lessons and how to overcome the challenges related to integration of critical thinking.

5.7 Recommendations of the Study.

5.7.1 Recommendations to Ministry of Education, Science and Technology.

The challenges facing the integration of critical thinking by teacher educators cannot be overcome by the Malawi Institution of Education only without the involvement of the Ministry of Education. Therefore, this study has proposed some recommendations to the Ministry of Education for the effective teacher educators' integration of critical thinking. Some of the recommendations are;-

- **Review of the teaching and learning resources.**

This study has found that the problem of critical thinking related teaching and learning resources including Information and Communication Technology equipment in teacher education colleges has not been addressed sufficiently because the Ministry of Education, Science and Technology (MoEST) had not supplied them with these resources.

- **In-depth teacher education orientation on assessment that promote critical thinking.**

The Ministry need to provide in-service training of teacher educators to equip them with the necessary skills on how they can use the assessment that promote critical thinking.

5.8 Suggestions for further study.

My study focused on Teacher Training Colleges only, therefore, future research could expand by conducting studies on;-

- An investigation of teacher educators' integration of critical thinking pedagogies in primary schools.
- How teacher educators are integrating critical thinking in secondary schools.
- Examining the extent to which teacher educators integrate critical thinking in other tertiary education institutions including universities.

5.9 Conclusion.

This study in its small-scale nature has attempted to bring an understanding of the teacher educators' integration of critical thinking in the classrooms. The findings of the study have revealed that teacher educators are facing challenges in integrating critical thinking pedagogies in teaching their student teachers. However, the study has revealed that majority of teacher educators are trying their best to integrate critical thinking in spite of the numerous challenges they are facing such as lack of adequate critical thinking related teaching and learning resources and lack of college-based Continuing Professional Development to supplement the knowledge obtained from the initial orientation.

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APPENDICES.

Appendix 1: INTERVIEW GUIDE FOR TEACHER EDUCATORS.

SECTION A: BIOGRAPHIC DATA.

1. College:…….….
2. Proprietor of the College:……...…
3. Name of Lecturer interviewed:……..
4. Sex:…….
5. Age of Lecturer:……
6. Academic qualifications of Lecturer:……..
7. Teaching experience of Lecturer:……
8. Number of students in the subject taught by the Lecturer:…….
9. Name of Researcher:……..
10. Date:……

SECTION B: TRAINING/ORIENTATION IN CRITICAL THINKING

1. Were you oriented to Critical Thinking pedagogies in the IPTE curriculum?

(i) Yes……. No…… Can't remember……..

(ii) By whom?

(ii) Where?

(iv) How long was the training?

(v) What is your understanding of Critical Thinking methods?

(vi) What is the origin of Critical Thinking in Malawi education system?

(vii) How do Critical Thinking methods improve quality of teacher education?

(viii) What specific Critical Thinking methods are more suitable and more effective for introducing a lesson?

(ix) What specific Critical Thinking methods are more suitable and more effective for the development phase of a lesson?

(x) What specific Critical Thinking methods are more suitable and more effective for concluding a lesson?

(xi) What were the strengths of the Critical Thinking training you attended?

(xii) What were the weaknesses of the Critical Thinking training you attended?

(xiii) Did the training prepare you to use Critical Thinking effectively?

(a) Yes……. No……

(b) Explain your response to question 1(v) above.

SECTION C: TEACHING STRATEGIES USED BY LECTURERS.

1. What are the Ministry of Education's prescribed teaching strategies for teaching Social Studies/ Life Skills/ Religious Subjects?

2. What teaching strategies do you mostly use?
3. Do you think these teaching methods you use are the most suitable for effective learning of your students?
4. Give a reason for your answers to question 3?
5. Apart from teaching methods, what measures do you use to ensure effective learning of your students in this subject?
6. What factors do you consider in the choice of your teaching strategies?
7. What teacher self-made teaching and learning resources do you use in your class?
8. What challenges do you face in teaching this subject?
9. What are the challenges do your students face in learning this subject?
10. How do you manage or deal with challenges you face in teaching this subject?
11. How do your students manage or deal with the challenges they face in learning this subject?
12. Do you have any comments about the content, the teaching and learning and assessment methods prescribed by the Ministry of Education, Science and Technology for this subject?

D. OPINION OF THE LECTURERS ON THE RELEVANCE OF THE IPTE CURRICULUM.

1. Do you think the new curriculum equip students with necessary teaching skills?

(i) **Yes**: (ii) **No**:

(ii) Explain your response.

THANK YOU FOR SPARING YOUR PRECIOUS TIME IN THIS RESEARCH.

Appendix 2: LESSON OBSERVATION PROTOCOL.

1. Demographic data

College:…… …….

Lecturer's name……..

Gender:……....

Teaching Experience: ……..…….

Class:…….. Number of Learners in Class……..

Subject:…….

Lesson duration: From……to:……..

Date of lesson observation:……..

2. Lesson preparation (to be completed before the lesson)

2.1 Lesson plan available? Yes/No.

2.2 Topic of the lesson:.....

2.3 Outcome (Success criteria) of the lesson:.....

2.4 Teaching and learning materials to be used in the lesson.

2.5 Learning activities to be used in the lesson.

2.6: Teaching method to be used in the lesson.

2.7 Critical Thinking methods to be used in the lesson.

2.8: Assessment method to be used in the lesson.

2.9 Critical thinking assessment methods to be used in the lesson.

3. Class room Observation (observation of what actually happens in the lesson, including what The Teacher and Learners do and say in the Teaching and Learning Process).

LESSON INTRODUCTION	**YES**	**NO**	**COMMENT**
Is the overall aim of the lesson clear			
Are the Success Criteria explicit and communicated to learners?			
Are the Success Criteria related to the aim of the lesson?			
Is the structure of the lesson clearly outlined to the students?			

What Critical Thinking methods are used in the introduction of the lesson.			
LESSON DEVELOPMENT	**YES**	**NO**	**COMMENT**
Demonstrates knowledge of the subject matter.			
Demonstrates knowledge of selection of suitable Critical Thinking methods for teaching the subject matter.			
Establishes classroom culture for learning.			
Creates equal opportunities for learning for all learners.			
Demonstrates knowledge of learners.			
Motivates the learners.			

Engages learners in learning.			
Uses appropriate teaching and learning aids and resources.			
Uses teaching and learning aids which promote Critical Thinking.			
ASSESSMENT	**YES**	**NO**	**COMMENT**
Selects and uses assessment strategies appropriate for the subject matter.			
Selects and uses assessment strategies that promote Critical Thinking.			
Selects and uses assessment strategies appropriate to the learning			

outcomes (Success Criteria).			
Uses assessment strategies to involve learners in self-assessment activities.			
Evaluates the effects of class activities on the learning of individuals and on groups.			
Gives feed-back to leaners assessment activities.			
CLASS MANAGEMENT	**YES**	**NO**	**COMMENT**
Controls the class			
Organizes, allocates, manages time, space and activities in a way that is conducive to learning			
Organizes, allocates, manages time, space and			

activities in a way that is promotes critical thinking.			
Sensitive to gender and cultural issues in class.			
Considers learners with special needs.			
Manages students behaviours effectively.			
LESSON CONCLUSION	**YES**	**NO**	**COMMENT**
Makes a good summary of the main points covered in the lesson			
Makes a good summary of the main points covered in the lesson using Critical Thinking methods			
Demonstrates achievement of lesson			

outcomes (Success Criteria).			
Gives assignment to learners.			

Appendix 3: POST-LESSON OBSERVATION INTERVIEW FOR CRITICAL THINKING.

1. Demographic data.

College:…… …….

Lecturer's name……..

Gender:…….

Teaching Experience: …….

Class:…….. Number of Learners in class……..

Subject:…….

Lesson duration: From……to:……..

Date of lesson observation:……..

Examples of probing questions to be asked to establish what teachers 'actually do' in the lesson observed.

1. I want to get a clearer picture of your lesson you have just taught your learners. Please tell me about it what was happening in the lesson?

2. Can you also please tell me more about how you addressed the outcomes (Success criteria) in your lesson?

3 Can you also tell me more about how you used your teaching and learning materials and resources (e.g. modules and the syllabus) in your lesson, how did they help you to teach the lesson and your learners to learn what you wanted them to?

4.1 Can you tell me more about the teaching methods you used in the lesson?

4.2 Why did you use those methods?

4.3 How did those methods help your learners to learn what you wanted them to?

4.4 What Critical thinking methods did you use in your lesson?

4.5 How did those Critical Thinking methods you used help to improve the quality of training of your student teachers?

5. Can you say something about the methods you used in the lesson to assess your learners learning? In other words, how did you know if learners understood what you taught them in the lesson?

6. What assessment methods did you use in your lesson to promote Critical Thinking?

7. How did those assessment methods you used in your lesson promote Critical Thinking?

8. Would you say that you achieved the objectives of your lesson? Explain.

9. What can you say are the things you liked about your lesson and the things you did not like about it?

10. Is there anything else you wish me to know about your lesson which you taught today?

11. Reflecting on this research, what feelings do you have about the methods I have used in this research to collect data at your school? What are the shortcomings of the methods I have used?

What improvements do you feel I could make in my methods in the future if I were to collect data about your teaching?

THANKS SO MUCH FOR YOUR TIME.

Appendix 4a: PERMISSION LETTER FROM THE DEAN OF THE FACULTY OF EDUCATION TO COLLECT RESEARCH DATA.

MZUZU UNIVERSITY

Dean, Faculty of Education.

Private Bag 201

L u w i n g a

M z u z u 2

MALAWI

Tel.: (265) 01 320 722/575

Fax: (265) 01 320

Ref.: MU/1/D3.0 11th April 2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam

PERMISSION TO COLLECT RESEARCH DATA

Lieutenant R. Majawa is a registered Master of Education (Teacher Education) Program student at Mzuzu University. He is supposed to collect research data for a study titled *Investigating teacher educators' critical thinking pedagogical practices for improving primary teacher education quality in Social Science subjects in Malawi.* The Faculty of Education at Mzuzu University has approved and cleared this research proposal.

Kindly assist him accordingly.

Yours faithfully,

Associate Professor Victor Mgomezulu

Appendix 4b: LETTER TO THE DEPARTMENT OF TEACHER EDUCATION DEVELOPMENT (DTED).

Mzuzu University
P/ Bag 201,
Luwinga.
MZUZU 2.
Email:buledimajawa@gmail.com

Department of Teacher Education Development **(DTED)**
LILONGWE.

Dear Sir/Madam

REQUEST TO CARRY-OUT A RESEARCH IN TEACHER TRAINING COLLEGES.

I am a post graduate student at Mzuzu University pursuing a Master of Education in Teacher Education. I am carrying out a study titled *"An investigation on teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Teacher Training Colleges in Malawi"* as a partial fulfillment of the requirements of the award of the Master's Degree. I am therefore writing to request your good office for permission to carry out this study in the three Teacher Training Colleges in the country.

My study will involve lesson observation, interviews with lecturers and principals. I will request them to sign a consent form accepting involvement in my research. I also intend to protect the anonymity of the colleges to be involved in the research, the lecturers' anonymity and the principals' anonymity by using pseudonyms.

Attached is an introduction letter from Mzuzu University.

Yours Sincerely,

LIEUTENANT R. MAJAWA (0888 350 359/ 0880 185 332).

Appendix 5: LETTER TO THE COLLEGE PRINCIPAL.

Mzuzu University,

P/ Bag 201,

Luwinga.

MZUZU 2.

Email: buledimajawa@gmail.com

The Principal,

_____ TTC

Dear Sir/ Madam

REQUEST TO CARRY-OUT A RESEARCH IN YOUR COLLEGE.

I am a post graduate student at Mzuzu University pursuing a Master of Education in Teacher Education. I am carrying out a study titled *"An investigation on teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Malawian Teachers' Training Colleges"* as a partial fulfillment of the requirements of the award of the Master's Degree. My study will involve observing classes and interviews with respective lecturers. I will also request to have an interview with you which is related to the topic of my study. I intend to protect the anonymity of your institution, of the lecturers and yourself by using pseudonyms.

I am therefore writing to request for permission to carry out this study in your college. Attached is an introduction letter from Mzuzu University.

Yours Sincerely,

LIEUTENANT R. MAJAWA (0888 350 359/ 0880 185 332).

Appendix 6a: CONSENT FORM FOR EDUCATORS'PARTICIPATION IN A RESEARCH.

Dear Sir/Madam,

My name is **Lieutenant R. Majawa,** a post graduate student at Mzuzu University. I am pursuing a Master's Degree in Teacher Education. I am carrying out a study titled *"investigation of teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Teachers' Training Colleges in Malawi"* as a partial fulfillment of the requirements of the award of the Master's Degree. The purpose of this study is to investigate the enactment of critical thinking methods by teacher educators when teaching student teachers in Teachers Training Colleges.

The activities you will be involved in are participating in pre-lesson observation semi-structured interviews. The second is that I will observe classroom lesson. The last activity is for you to participate in is a post-lesson interview after I observe your lesson.

Information you give in this study will be treated with utmost confidentiality and will not be accessible to any person except me and my supervisors. Information you give will be used for academic purposes only. For the sake of protecting your identity, your name will not be associated with the research findings in any way and only the researcher will know your identity as a participant. Participation in this study is voluntary. For this reason upon accepting to take part in this study, you are requested to sign in the spaces provided below.

Name: _____ Signature: _____

Date: _____

(Participant)

Name: _____ Signature: _____

Date: _____

Lieutenant R. Majawa (Researcher).

Appendix 6b: CONSENT FORM FOR AUDIO-RECORDING INTERVIEWS.

I invite you to participate in an interview in my study on the topic, *"investigation of teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Teachers' Training Colleges in Malawi"*. I would like to audio record what transpires in this interview. I therefore, request for your permission for me to audio record our discussions in the interviews. Please sign below if you have accepted to be audio-recorded. I give consent to the following:

(a) Being interviewed in the study.

(b) Being audio-recorded during the interview.

Name of lecturer _____

Signature of lecturer_____ Date _____

Name of researcher _____

SIGNATURE of Researcher _____ Date _____

Appendix 6c: CONSENT FORM FOR THE PRINCIPALS' PARTICIPATION IN THE STUDY.

Dear Sir/Madam,

My name is **Lieutenant R. Majawa,** a post graduate student at Mzuzu University. I am pursuing a Master of Education in Teacher Education. I am carrying out a study titled *"An investigation on teacher educators' integration of critical thinking pedagogies in Social Science subjects in the selected Malawian Teachers' Training Colleges"* as a partial fulfillment of the requirements for the award of the Master's Degree. The purpose of this study is to investigate the enactment of critical thinking methods by teacher educators when teaching student teachers in Teachers Training Colleges. However, the following information is provided for you to decide whether to participate in the present study.

The activity you will be involved in is participating in semi-structured individual interview which might take about an hour on an agreed day and time. Information you give in this study will be treated with utmost confidentiality and will not be accessible to any person except me and my supervisors. Information you give will be used for academic purposes only. For the sake of protecting your identity, your name will not be associated with the research findings in any way and only the researcher will know your identity as a participant.

Your benefits as a participant will be information that the study is apt to generate as we discuss the subject under investigation at your institution and the opportunity to participate in the study.

Participation in this study is voluntary. For this reason upon accepting to take part in this study, you are requested to sign in the spaces provided below.

Name: _____ Signature: _____

Date: _____

(Participant).

Name: _____ Signature: _____

Date: _____

Lieutenant R. Majawa (Researcher).