TOWARDS CONTEXT – BASED LEARNING AS A MODEL FOR PRE – SERVICE PRIMARY TEACHER EDUCATION IN KENYA: A CASE OF MERU AND EGOJI TEACHERS COLLEGES

BY
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E83/15236/05

A RESEARCH THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE SCHOOL OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT, KENYATTA UNIVERSITY

MAY 2011

DECLARATION
This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

To my wife Beth, our children Neema and Andy, my parents and my sister, thank you for your unwavering support and love.
AKNOWLEDGEMENTS

I would like to express my deepest heartfelt gratitude to the following individuals and institutions for their tremendous support and assistance in carrying out my research and the writing of this thesis. I sincerely appreciate the guidance and dedication of my supervisors, Dr Nicholas Twoli and Dr. John Maundu. Their invaluable support, concern and suggestions were a source of inspiration and strength that saw the completion of this thesis. I will not forget the lovely support of Prof. Ted Groenewegen who was one of my supervisors at the initial stages of this work. I am grateful to Mr. A.D. Bojana for his editorial contribution.
My very sincere appreciation goes to Kenya Methodist University for their financial support that saw me accomplish my studies. Credit is due to the staff of the department of Education and Counselling at Kenya Methodist University whose moral support was beyond measure. Many thanks go to the principals and students of Meru, Egoji and Kigari teacher training colleges, the headmasters, teachers and pupils of the many primary schools where this study was carried out. Their assistance was truly from their hearts and will never be forgotten. Above all, I thank the Almighty God whose grace and love saw me through my studies.

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### ABBREVIATIONS AND ACRONYMS

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<tr>
<td>ADEA</td>
<td>Association for the Development of Education in Africa</td>
</tr>
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<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<td>CRE</td>
<td>Christian Religious Education</td>
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<td>ECED</td>
<td>Early Childhood Education and Development</td>
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<td>EFA</td>
<td>Education for All</td>
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<td>FDGs</td>
<td>Focus Discussion Groups</td>
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<td>FPE</td>
<td>Free Primary Education</td>
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<td>GOK</td>
<td>Government of Kenya</td>
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<tr>
<td>IRE</td>
<td>Islamic Religious Education</td>
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<td>KENSIP</td>
<td>Kenya School Improvement Programme</td>
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<td>KRTs</td>
<td>Key Resource Teachers</td>
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<td>KESSP</td>
<td>Kenya Education Sector Support Programme</td>
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<td>MoEST</td>
<td>Ministry of Education Science and Technology</td>
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<tr>
<td>NFE</td>
<td>Non-Formal Education</td>
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<tr>
<td>OJT</td>
<td>On the Job Training</td>
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<td>SbTD</td>
<td>School-Based Teacher Development</td>
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<tr>
<td>SEP</td>
<td>School-Empowerment Programme</td>
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<td>SMASSE</td>
<td>Strengthening of Mathematics and Science Education</td>
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ABSTRACT

Research evidence points out that there is a strong relationship between teaching and learning. The KESSP 2005-2010 document and the Sessional Paper No. 1 of 2005 have cited low quality teacher education as a problem in Kenya. They attribute this to the traditional content-based pedagogical primary teacher education model which presents a fragmented view of learning and is not context-based leading to little or no connection between theory and practice. Though efforts have been made in terms of reviewing the primary teacher education curriculum among others, not much has been done in reviewing the traditional model of training. This study sought to establish whether context-based learning through focus discussion group on teaching and classroom practice improves pre-service teachers’ teaching effectiveness. It identified experiences and perceptions of pre-service teachers on focus discussion group as a model of context-based learning and formulated a suitable primary teacher training model for Kenya. Five null hypotheses were formulated and tested. A Quasi-Experimental research design in a form of a pre-test/post-test longitudinal panel control group was used. It involved a stratified random sample of eighty (80) first year pre-service teachers from Meru and Egoji colleges for the experimental and control groups respectively. The experimental group was subdivided into groups of ten of equal gender proportions through stratified random sampling. They held discussions under the facilitation of the researcher once per week during the 1st and 2nd school-based practice learning sessions. The research instruments used included a classroom observation schedule, a questionnaire, a focus group discussion schedule and a reflective diary which were piloted at Kigari Teachers College. Data obtained from the research instruments were analysed by use of frequencies, percentages, and an independent t-Test. The findings obtained showed that there were significant differences between the experimental and control groups on all the variables under study namely; instructional system planning (t (78) = 5.327, p < .05), teacher-student interactions (t (78) = 2.458, p < .05), students’ motivation (t (78) = 2.348, p < .05) and use of instructional resources (t (78) = 2.807, p < .05). However, teachers’ classroom management and control had a non-significant t-Test value of (t (78) = 1.143, p < .05). The study also revealed that pre-service teachers rated focus discussions groups as useful in their professional development and indicated that all the components of the context-based primary teacher education model were operating well. Based on these findings, a context-based pre-service primary teacher education model with four interacting sources of learning was formulated for primary teacher education in Kenya. Recommendations were made to primary teacher education policy makers, curriculum developers, tutors and pre-service teachers to design and implement context-based learning approaches in the training of primary school teachers which would create student-centred lessons, make students responsible for their learning. It will also help students to relate theory to practice, develop higher order thinking and problem-solving skills and contextualize their teaching in primary schools. Further research was recommended in determining the effect of each context-based learning component on pre-service teacher effectiveness and establishing tutors teaching practices.
CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter provides a background of the problem, statement of the problem, purpose of the study, study objectives, research hypothesis, significance of the study, scope and limitations of the study, assumptions of the study, theoretical framework, conceptual framework and operational definition of key terms.

1.1 Background to the Problem

Many developed countries have adopted learner-centred teaching methods as noted by Kiggins (2007), Eurydice (2002), Tiwari, Wong and Lai (2005), Choi and Johnson (2005) and Jonassen, Peck and Wilson (2005). However, the said adoption is not done to satisfactory levels. The use of learner-centred teaching methods has been attributed to the utilization of new teacher education models as argued by Eurydice (2002). The major hindrance to the use of learner-centred teaching methods has been blamed on the traditional teacher education models that do not give adequate room for pre-service teachers to participate in their learning as noted by UNESCO (2005) and Eurydice (2002). In Africa, Dembele and Miaro (2003) argue that, most pedagogical research findings such as the ones done by Ackers et al., (2001); Ansell (2000); Kotta (1986); Tafa (2001); O-Saki and Agu (2002) and Tabulawa (1998) show that undesirable teacher-dominated instructional methods still persist in primary schools.

Similar observations have been made by MoEST report (2003) and Akuno (1997) in Kenya. Research in teacher education as indicated by Cambourne and Kiggins (2004), Hopkins (2001), Scheerens (2000) and Carter (2000) has shown that there is a strong relationship between teaching methods and the quality of learning in classrooms. Similarly, as pointed out in the Ministry of Education, Science
and Technology national education (MoEST) report of November 2003, the Sessional Paper No. 1 of 2005 on Policy Framework for Education, Training and Research and the Kenya Education Sector Support Programme (KESSP, 2005), the Kenya Government emphasizes on quality teacher education programmes at all levels.

Improvement on teacher quality has been a major focus of education reform in many countries as pointed out by Matoko, Le Tendre and Scribner (2007) and the 2000 Dakar education summit. However, there is still no agreement on what it takes to produce an excellent teacher as argued by Schwille, Dembele and Schubert (2007). The emphasis on quality teachers is in line with the sixth Education for All (EFA) goal, the recommendations of both the 1990 International conference on education held in Jomtien, Thailand and the 2000 Dakar summit on education which aim at improvement on all aspects of education and training through professional and well educated teachers. Resources committed to the development of teacher education by the Kenya government are a clear manifestation of this recognition. However, even though there is such commitment, myriads of challenges still plague teacher education. One such problem as cited in the MoEST report of November 2003 and the 2000 Dakar education summit is the quality of teachers especially in primary schools. Consequently, this affects the quality of the instructional process.

The Kenya Government has acknowledged that, well-trained teachers are key to successful implementation of curriculum reforms, achievement of education for all and the success of the free primary education (FPE) (Republic of Kenya., 1988; KESSP 2005). This necessitates the need for development of appropriate teacher education programmes for all tiers of education. Studies done in developing countries point out that the influence of the teacher on pupil learning is more important than the effects of other factors such as resource availability and the number of learners in a class (Riddel, 1989; Scheerens, 1999, 2002). This clearly shows the requirement for an effective teacher education programme particularly for primary schools.
Barber (1995) and Farrant (1980) indicate that a teacher education programme comprises three phases which include pre-service training, induction training and in-service training. All the phases are fundamental to the quality development of professional teachers. Pre-service training is the foundation upon which later training is based. Many African countries continue experimenting and investigating on the best teaching methods to adopt and thereby improve the teaching and learning in schools. As noted by Farrell (2002) and Hopkins (2002), there has been successful implementation of innovative, learner-centred and participatory teaching methods in Botswana, Guinea and Namibia.

The Kenya pre-service primary teacher education model is mainly the traditional concurrent content-based pedagogical model which is primarily concerned with the transference of content mainly delivered in a didactic manner. The model is concurrent because all the components namely; teaching content, pedagogical knowledge and skills, and teaching skills are integrated. It is content-based and pedagogical, it emphasizes on knowledge and skills acquisition with little room for learner participation (Thomas, 1997). According to the MoEST report (2003), the current pre-service primary teacher education model in Kenya comprises three components namely; college classroom learning (Pedagogy and teaching subjects), micro-teaching and teaching practice. The components are supposed to interact as indicated in Fig 1.1 to produce a qualified primary school teacher.
During college classroom learning, pre-service teachers are taught educational professional courses and teaching subjects. The educational professional courses such as Instructional methods, Sociology of Education and Philosophy of Education are offered as one subject known as Professional Studies.

The teaching subjects are categorized as follows; Language Education (English & Kiswahili), Mathematics, Science Education, Social Studies (Geography & History) and CRE/IRE. Micro-teaching entails short practical teaching sessions (normally between 7-10 minutes long) through the use of fellow pre-service teachers as learners under the supervision of a tutor. The pre-service teacher is then evaluated by both colleagues and the tutor after each micro-teaching lesson. Teaching practice involves approximately three and a half months of actual attachment of pre-service teachers in primary schools for practical application of knowledge and skills acquired during the college classroom learning and micro-teaching. The Kenya primary teacher education training takes a period of two years to complete. Appropriate management of pre-service primary teacher education model described is expected to
provide new teachers with knowledge and skills that can help them perform their teaching jobs effectively.

As noted by Armour and Booth (1999) and Hoban (1999), teacher education graduates in many countries often feel inadequate in their preparation for classroom teaching. This situation as pointed out by Shiundu and Omulando (1992); Kiggins (1999); Hoban (1999), Carter (2000), Feiman-Nemser (2001) and Hoban, (2005) could be due to a fragmented view of learning as a result of the way teacher education courses are presented. Often, their delivery is not context–based, leading to little or no connection between theory and practice to a teacher trainee. It also gives little room and sometimes none at all for the learner to effectively participate in his or her learning. Feiman-Nemser (2001) argues that teacher education in many countries is structurally fragmented and conceptually impoverished. This raises the problem of lack of connecting tissue holding things together within or across the different phases of learning to teach. Kiggins (2007) emphasizes that, it is imperative that pre-service teachers be equipped with alternative teaching strategies that can meet the challenges of the ever changing world. Therefore, there is need for development of innovative teacher education techniques such as the context-based learning model that may address the limitations cited.

Context-based learning models are increasingly becoming an integral part of education reform in many parts of the world (Cheany & Ingebritsen, 2005). However, as asserted by Tiwari, Wong and Lai (2005), there is no universally accepted definition of what the term context-based entails. Jonassen, Peck and Wilson (1999) argue that most scholars define context-based learning as a process where the real world context, culture and tools in the learning environment drive the learning. Choi and Johnson (2005) point out that context-based learning is based on constructivist arguments that knowledge cannot be simply transmitted from the teacher to the pupil since learners do not have the same experiences as the teacher. Therefore, learners’ interpretation of the experiences would be different from that of the teacher. Hence the need for learners to be given an opportunity to take responsibility for their own learning through active participation and collaborative learning.
Tiwari, Wong and Lai (2005) note that the aim of context-based learning is to engage learners in active, constructive, intentional, authentic and cooperative learning thereby, making the learning process learner-centred through problem-solving, learner independent learning, group discussion and sharing. Thomas (1995) stresses on the need to paying attention to the context so that the optimal mix of professional development processes can be identified and implemented. This will ensure effective professional development based on school-experiences and connected to the daily activities of teachers and learners.

Context-based learning models have been widely used in medical education since the 1960s especially in USA and are currently a major learning strategy for a variety of programmes in science and social science professional courses (Cheaney & Ingebritsen., 2005). Kang‘ethe, Nafukho and Mutema (2002) comment that context-based learning is a relatively new teaching model in Kenya. It started being used in health sciences in 1994 at Moi University in selected courses, despite the initial opposition by some lecturers. Since then, it has formed part and parcel of the instructional pattern in the health science faculty.

Studies done by Tiwari, Wong and Lai (2005), Choi and Johnson (2005), Cheany and Ingebritsen (2005), Kang‘ethe, Nafukho and Mutema (2002) argue that context-based learning models have important advantages to learners, for example, they improve learners’ critical thinking, performance and increases their motivation to learn. However, the findings cited were not conclusive and the said researchers recommend further studies in the area.

Cambourne and Kiggins (2004) argue that there has been little progress in developing valid and context - based learning programmes in teacher education in many countries in the world. This, as exemplified by Cambourne and Kiggins (2004), leaves many teacher education graduates unsure of what confronts them when they arrive in schools and end up having feelings of being under-prepared
for life in classrooms. Armour and Booth (1999) observe that teacher education graduates are unable to see the relationship between what they studied at college and its application in actual classroom practice. This may lead to adoption of poor teaching methods in their classrooms and feelings of inadequacy in the execution of their duties. These weaknesses call for development of suitable primary teacher training models.

Dembele and Miaro-II (2003) argue that there is very little use of innovative training techniques in teacher education programmes in Africa. In Kenya, as pointed out by the MoEST report (2003) and Shiundu and Omulando (1992), pre-service primary teacher education is mainly based on the traditional teacher training model where learning is compartmentalized with little or no relationship between courses and is not context-based. Shiundu and Omulando (1992) further comment that:

The traditional approach to teacher education in Kenya has been criticized for lack of commitment and efficiency as well as purpose. It is moreover more subject-centred than learner or objective-centred. As a result, adequate learner involvement is said to lack in the learning situation (P. 230).

Wanzare (2002) quoting from Republic of Kenya (1999) supports this view by arguing that:

Whereas the intent of Kenya’s school reform initiative is to ensure the provision of quality education to Kenyans and whereas the Kenyan teacher education curriculum aims at providing manpower that would improve the quality and relevant education, evidence to date indicates that the present calibre of teachers serving in schools is unlikely to contribute to these ends. In general teacher quality is low (P. 218).

In addition, press reports in Kenya and general public comments as indicated in the East African Standard; Schools and Career; April 22nd 2004, p. 7 and East African Standard; June 20th 2002, p. 18, tend to point fingers at poor teaching methods and by extension poor quality teachers whenever there is poor learner performance in national examinations. As advised by Shiundu and Omulando (1992) and the MoEST report (2003), there is need for concerted efforts to make teacher training more purposeful and learner-oriented. New and improved models of teacher education such as context-based learning model are required to achieve this purpose.
1.2 Statement of the Problem

The quality of primary school teachers is low in many African countries due to the structurally fragmented and conceptually impoverished traditional training models used in their training as noted by Feiman-Nemser (2001), Wanzare (2002) and Demebele and Miaro-II (2003). This observation is supported by a report by UNESCO (2005) which indicates that available data suggest that large proportions of primary-school teachers in developing countries lack adequate training and content knowledge which it attributes to ineffective pre-service education. This is attributed to traditional concurrent content-based pedagogical models and approaches to teacher education that are structurally fragmented and conceptually impoverished leading to lack of adequate learner involvement, no effective relationship between theory and practice and lack of mechanisms to help teachers creatively seek solutions to teaching professional problems in their specific day-to-day teaching environments.


The Kenya primary teacher training has been improved through reduction of subjects, allowing trainees to specialize and raising the minimum entry requirements. However, as indicated by the MoEST report (2003), not much has been done to review the traditional model of training. Carter (2000) argues that teachers can only be as strong as the training they receive. Educationists and
researchers agree that there is need to improve teacher education or reform it altogether in Eastern and Southern Africa (UNESCO, 2005; Wanzare, 2002; Moorosi, 1996; Shongwe, 1996). This may be addressed through innovative primary teacher education training models and techniques such as the context-based learning model in cognizance of the fact that what we expect a beginning teacher to know and be able to do is continually evolving in line with the constantly changing world (Kiggins, 2007).

1.2.1 Purpose of the Study

The purpose of this study was twofold: to find out whether context-based learning as a model of pre-service primary teacher education improves the effectiveness of a teacher and to formulate a suitable pre-service primary teacher training model for Kenya and beyond.

1.3 Study Objectives

The specific objectives of this study were:

a) to establish whether the context-based learning model through use of focus discussion groups improves pre-service teachers’ teaching effectiveness.

b) to identify experiences and perceptions of pre-service teachers on focus discussion groups as a model of context-based learning model.

c) to formulate a suitable pre-service primary teacher training model for Kenya.

1.4 Research Hypotheses

The following null hypotheses guided the study:

\textbf{H}_{01}; \text{ There is no significant difference in teacher-learner classroom interactions between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.}
Ho2: There is no significant difference in teacher’s motivation of learners between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.

Ho3: There is no significant difference in teacher instructional system planning between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.

Ho4: There is no significant difference in teacher’s use of instructional resources in the classroom between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.

Ho5: There is no significant difference in teachers’ classroom management and control skills between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.

1.5 Significance of the Study

The findings of the study are of great use to primary teacher educators and curriculum developers by sensitising them on the need to develop context – based pre – service teacher education through learner-centred and problem–based approaches to training. This will help in improving the quality of teachers as emphasized by the Kenya Education Sector Support Programme (KESSP) and the Sessional Paper No. 1 of 2005 on education, training and research. The findings of the study will also sensitize primary teacher education policy-makers on the limitations of the current approach in teacher education and the need for a more participatory and enhanced teacher training approach. This will help them to develop appropriate in-service programmes designed to address the limitations. The mentioned Sessional Paper No. 1 emphasizes on continuous upgrading of teachers’ skills in order to address the past weaknesses of practising teachers.
The findings obtained will provide a practical framework on the linkage between teacher education theory and practice. Pre-service teachers will also benefit from the findings of this study by making them aware of the need for effective participation in their learning and similarly, the importance of context-based learning approaches in the instructional process in order to achieve quality education as recommended by the EFA, KESSP and the Sessional Paper No. 1 of 2005. The study also generates a suitable pre-service primary teacher training model for Kenya. Finally, the findings of the study contribute to the field of teacher education as an additional reference material for future researchers.

1.6 Scope and Limitations of the Study

The study involved first-year primary teacher trainees from Meru and Egoji teacher training colleges. A sample of pre-service teachers from Meru Teachers College formed the experimental group while those from Egoji were the control group. The study focused only on the pre-service teachers’ actual classroom teaching and not their overall performance in the school. Therefore, the findings of the study are limited to observations of the pre-service teachers’ classroom teaching.

1.7 Assumption of the Study

The assumption of this study was that the selection of pre-service primary teachers from a national pool and the similar minimum entry requirements for all primary teacher trainees made the experimental and the control groups comparable at the entry point of their studies.

1.8 Theoretical Framework

This study was based on an adapted Knowledge Building Community Model (KBC) by Kiggins (1999). The KBC model is made up of three components or sources of learning for pre-service teachers namely; School-Based Learning (SBL), Problem-Based Learning (PBL) and Community Learning (CL). These components should interact together as a basis for continuous and context-based learning. It
is aimed at supporting continuous social reconstruction of knowledge by pre-service teachers. The adapted model for this study incorporated reflective practice, cooperative learning components and classroom learning and micro-teaching. Problems for discussion during the focus group sessions (cooperative learning) emanated from the school-based and reflective practice learning. These components interact as indicated in Figure 1.2.

Fig 1.2 Context-based Learning Model

![Diagram of Context-based Learning Model](Source: Adapted from Kiggins (1999))
Fig 1.2 shows that the four sources of learning interact to help the pre-service teacher to understand and appreciate the complexities associated with teaching and classroom practice and thereby, gain skills in creation and maintenance of classroom setting that support effective teaching and learning.

**School – Based Learning (SBL) – Teaching Practice (Actual teaching experiences)**

In this case, the pre-service teachers were attached to schools in the community during their two years training period. The aim was to help them develop an initial understanding of school-based culture and how schools operated. This helped them generate ideas and problems for discussions in the focus groups. Such problems were related to instructional system planning, lesson presentation, teaching resources and classroom management. The aim was to increase their awareness on the teachers’ role in the classroom and school.

**Cooperative Learning (CL) – Focus Discussion Groups (FDGs)**

This source required the development of a community of learners who included pre-service teachers and a lecturer (facilitator). The aim of the group was to establish team spirit among them and form the foundation of problem-based learning needed in meeting the challenges of current teaching and classroom practice such as increased teacher-learner ratio in classes, scarce instructional resources and indiscipline. It also helped the learners to actively participate in the learning process through identification and sharing of solutions to the problems of teaching and learning they encountered. This took place in college after each week’s teaching practice by pre-service teachers.

**Reflective Practice Learning (RPL)**

As recommended by Schon (1983), reflective practice helps beginners in a discipline to retrospectively evaluate their own individual performance. Peer involvement in objectively examining one’s classroom performance is a fundamental aspect of reflective practice most often used at the pre-service level of teacher education. It helps pre-service teachers to challenge their own preconceived views of teaching.
Reflective practice generated issues for discussion during the focus discussion group meetings. Reflective practice learning was carried out through recording of teaching practices on a reflective practice diary (Appendix E) by every pre-service teacher after each day’s teaching experience. Pre-service teachers’ recordings on the reflective diary were analyzed in relation to the classroom observations made for each pre-service teacher per day.

**Classroom Learning and Micro-Teaching (CLM)**

During college classroom learning, pre-service teachers were taught educational professional courses and teaching subjects. The educational professional courses such as Sociology of Education and Philosophy of Education were offered as one subject called Professional Studies. The teaching subjects are categorized as follows; Language Education, Mathematics, Science Education, Social Studies and CRE/IRE. Micro-teaching entailed short practical teaching sessions (normally between 7-10 minutes long) through the use of fellow pre-service teachers as primary school learners under the supervision of the tutor. The pre-service teacher was then evaluated by colleagues and the tutor after each micro-teaching lesson. This source was supposed to provide a foundation on teaching and classroom practice to the pre-service teacher on which later learning is built.

**Teacher Education (TE)**

Effective teacher education involves good interaction of the four elements discussed earlier, namely, school-based learning, reflective practice learning, cooperative learning and classroom learning and micro-teaching. The context-based model was chosen in this study since pre-service teacher education should aim at equipping pre-service teachers with skills and knowledge that will enhance and improve their creativity in teaching and classroom practice. It should also aim at helping them gain skills in self-educational abilities as well as acquire an integrated knowledge base needed to meet the challenges of current teaching and classroom practice. It is the assumption of this study that this will translate into effective teaching practices in primary schools by the primary teacher training college graduates.
1.9 Conceptual Framework

This study was based on an adopted model of systems approach to instruction by Ayot and Patel (1987). The model has the following components; Input, Process, Output, Desired Output and Feedback. The components integrate as shown in Fig. 1.3.

![Fig. 1.3 Conceptual Framework]

**Input**

- New pre-service teacher

**Process**

- Classroom learning & Micro-Teaching
- School-based learning
- Cooperative learning
- Reflective learning

**Output**

- Classroom teacher- learner interactions
- Teacher’s motivation of learners’ motivation
- Teacher’s instructional system planning
- Teacher’s use of instructional resources
- Teacher’s classroom control and management Skills

**Desired Output**

- An effective teacher

Feedback

Yes
Fig. 1.3 shows that new pre-service teachers are the inputs who were trained through a process that involved classroom learning and micro-teaching, school-based learning (teaching practice), cooperative learning and reflective learning. Classroom learning and micro-teaching was carried out in the teacher training colleges. The aim was to provide a theoretical and practical foundation in teaching and classroom practice to pre-service teachers. School-based learning required the pre-service teacher to be attached to primary schools for a specific period in order to acquire practical knowledge and skills on how schools operated. Pre-service teachers were thus provided with an opportunity to practise what they had been taught during classroom learning and micro-teaching. Issues for discussion during the focus discussion group meetings emanated from the school-based experiences of pre-service teachers.

Cooperative learning entailed group effort in seeking solutions to problems and issues in teacher education. In this study, cooperative learning was done during focus discussion groups. The aim of this process was to help pre-service teachers share ideas and exchange information on classroom practice. Reflective learning involved pre-service teachers’ own evaluation of their performance during teaching practice. This helped them to think of alternatives for improvement and challenge existing theories and their own preconceived views of teaching. In addition, it provided issues for discussion during focus discussion groups.

The process described was carried out and an output in form of classroom teacher – learner interactions, teacher’s motivation of learners, instructional system planning, classroom control and management skills and teacher’s motivation and interest in their learning of teaching and classroom practice received. The performance of the pre-service teacher in his/her actual teaching was then evaluated using the classroom observation schedule that outlined the parameters of determining an effective teacher. The results obtained
provided a feedback that helped in finding out whether a pre-service teacher was an effective teacher or not. This feedback was then expected to be fed back to the system in cases where the pre-service teachers were found not to be effective.

1.10 Summary

Various research findings have cited low quality teacher education as a major problem in Kenya. They attribute this problem to the traditional content-based pedagogical primary teacher education model used to train teachers. This study sought to establish whether the context-based learning model through use of focus discussion groups on teaching and classroom practice improves pre-service teachers’ teaching effectiveness. In addition, it aimed at identifying experiences and perceptions of pre-service teachers on focus discussion groups and formulating a suitable primary teacher training model for Kenya. The findings of this study will hopefully help all primary teacher education curriculum developers, policy makers and educators in improving the quality of teachers from primary teacher education colleges.

1.11 Operational Definition of Key Terms

The following are the operational definition of terms used in this study;

Classroom Performance: The set behaviour of the pre – service teacher in terms of teaching and classroom practice.
Context – Based Learning: Learning that is based on the actual day-to-day pre-service teachers’ specific environment and experiences. The aim is to help the pre-service teacher acquire the skill of creatively solving his or her day-to-day teaching professional problems.

Cooperative Learning: Learning in which pre-service teachers learn through interaction and sharing of ideas and information in a purposed group of peers. This is done during focus discussion group meetings on teaching and classroom practice.

New Enhanced Primary Teacher Education Model: New strengthened primary teacher training where planned qualitative changes are incorporated in a teacher education model.

Pre – Service Teachers: Learner- teachers who are acquiring initial teaching professional training.

Primary Teacher Training Model: The sequence, breadth and depth of activities, events and education processes that a pre – service teacher undertakes during the initial teaching professional training.

Problem-Based Learning: Learning in which the pre-service teacher creatively seeks to solve problems he/she encounters in his/her teaching practice.

Quality Education: Education that meets the needs of a specific society or country.

Re-conceptual Model: Recreated model of primary teacher education.

Reflective Practice Learning: Learning in which the pre-service teacher learns through retrospective own analysis of his/her teaching performance after each day’s teaching for the three months teaching practice period.

School-Based Learning: Learning through actual participation of the pre-service teacher in a real school setting (teaching practice).

Teacher Effectiveness: The degree of excellence to which a teacher performs his/her teaching duties in the classroom.

Teaching Practice: Actual pre – service teachers’ practical experiences in schools.

Traditional concurrent content-based pedagogical teacher education models: The teacher-centred methodologies where the learner is passive and emphasis is on transference of knowledge and skills from the teacher to the learners.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter focuses on literature that has been written by scholars on teacher education and training, specifically on primary teacher education in Kenya. The chapter is organized into the following sub-topics:

a) Teacher effectiveness in relation to learner performance.

b) Pedagogical renewal in Africa.

c) Teacher education models

d) Context-based model as an innovative technique in teacher education.

e) Teaching practices in Kenya primary schools.

f) The current Kenya primary teacher education model.

g) On-going initiatives on teacher quality improvement programmes in Kenya.

h) The need for new and enhanced primary teacher education models in Kenya.

i) Summary
2.1 Teacher Effectiveness in Relation to Learner Performance

The Government of Kenya (1964; 1976; 1988) through education commission reports, has pointed out that teachers and classroom processes are central to learner performance. Similarly, the Dakar Education Summit in Senegal in April 2000 argues that teachers are essential in promoting quality education (KESSP; 2005). Dembele and Miaro – 11 (2003) note that studies done in African countries show that the influence of the teacher on pupil learning is more important than the effects of other factors such as availability of resources. This means that there is a strong relationship between teacher’s pedagogical skills and the quality of learning that occurs in the classroom. Schwille, Dembele and Schubert (2007) note that researchers have suggested that teaching is arguably the strongest school-level determinant of learner achievement.

Research has also shown that learners achieve more when instructed by well-educated and trained teachers. A review of 1056 research papers, theses and dissertations by West and Central African researchers conducted by McClure in 1997 as reported by Dembele and Miaro – 11 (2003) reveals that poor quality teaching is due to poor teacher qualification. However, demonstrating that teacher education does make or does not make a difference in learner performance is not straightforward as many factors and variables come into play. Nevertheless, since teachers play the most significant role in the teaching and learning process than other factors especially in developing countries, their training should be of high quality if we expect them to be effective in their work. (Riddell, 1989; Scheerens, 1999, 2000, Shiundu & Mohammed, 2005).

High quality teachers make a significant and lasting contribution to their learners. To achieve the desired and quality learning, a teacher needs not only to be competent but also effective in his/her work. Though there is still much argument on what it takes to produce effective teachers, Medley and Shannon (1994) define ‘teacher effectiveness’ as the degree to which a teacher behaves in the teaching process and ‘teacher competence’ as the extent to which the teacher possesses the knowledge and skills or competencies. The
The focus of this study is primarily on teacher effectiveness in relation to teacher competence or the knowledge and skills the teacher has acquired and how effectively he/she utilizes them to help learners achieve maximum learning. For a teacher to be competent and effective in his/her teaching, he/she requires to be well-trained through an equally effective teacher education programme. Shrestha (1997) points out that, an effective teacher training programme should include a fair amount of teaching of the subject matter that the teacher is supposed to teach as well as appropriate repertoire of pedagogical skills in the particular subject (P. 2).

Through such a programme, a pre-service teacher will be expected to be competent after graduation. However, his/her effectiveness will largely depend on how he/she constructs, de-constructs and re-constructs the specific classroom environment and shares these meanings so that he/she can help learners achieve maximum learning. One of the objectives of this study was to generate a suitable primary teacher education model for Kenya that will help teacher trainees acquire requisite knowledge and skills necessary for effective performance of their jobs and thus, help pupils to achieve maximum learning.

### 2.2 Pedagogical Renewal in Africa

Every nation in Africa aims at attaining education quality at all education levels. This can only be achieved through proper mixing of various inputs in the classroom and the school in general in order to foster learner learning. The mixing of these inputs mainly depends on the knowledge and skills teachers acquire during their training. In this study, pedagogical renewal means planned qualitative change aimed at desirable teaching practices which comprise participatory, more interactive, child-centred and innovative pedagogy characterized by cooperative learning and inquiry with an aim of fostering learners’ concept development and understanding, critical thinking and problem-solving.

Implementation of participatory and learner-centred teaching methods seems elusive even in developed countries where conducive classroom environments exist (Cohen, McLaughlin & Talbert, 1993; Fullan, 1991). More and more countries continue experimenting and investigating on the best teaching methods to
adopt and thereby improve the teaching and learning in schools. African countries have not been left behind in this regard. As commented by Farrell (2002) and Hopkins (2002), there has been an emerging record of successful implementation of innovative, learner–centred and participatory teaching methods though on a small scale in African countries. Good examples of efforts in this area exist in Namibia, Botswana and Guinea.

In Guinea, an experimental study involving a sample of 7162 pre-service teachers divided into two equal experimental and control groups was conducted between 1998 -2002. The experimental group was trained through an innovative system of professional training which involved active pedagogy, learner-centeredness, reflective practice and social-constructivism while the control group was trained through the traditional model of teacher training. The study found that the experimental group pre-service teachers were more effective in their teaching than those trained through the traditional model. Primary school pupils taught by the experimental group performed better than those taught by the control group. In Namibia, a study which involved a sample of 30 in-service teachers found that teachers trained through the traditional teacher training model had difficulties in making a connection between theory and practice. The study proposed an innovative training model that establishes a link between theory and practice in teacher education. The two cases mentioned involved a small sample. The challenge remains on how to successfully implement and sustain such innovative and desirable programmes on a large scale (Dembele and Miaro-II; 2003).

As enumerated by the UNESCO technical paper number 2 of 2005, there is need for innovative experimental investigation of the learning and teaching strategies most appropriate for viable implementation of the curriculum in different situations. This calls for use of new techniques aimed at improving teacher education. Educationists and researchers agree that there is need to improve teacher education or reform it altogether in eastern and southern Africa (MoEST, 2003; Moorosi, 1996; Shongwe, 1996 and Shiundu & Omulando, 1992).
Since teachers are key players in promoting quality education at all levels, their training and education should effectively equip them with requisite knowledge and skills that will help them provide quality teaching and thereby achieve quality education. This is only possible if the traditional content-based model of teacher training in which the courses are fragmented and there is little relationship between theory and practice is rethought and improved on (Shiundu & Omulando, 1992; Bogonko, 1992; Wanzare, 2002; MoEST, 2003; Dembele & Miaro – 11., 2003).

2.3 Teacher Education Models

A number of teacher education models have emerged in the past two decades in different developing countries as a basis of solving their qualitative and quantitative teacher education needs. Each of the teacher models may entail some or all the following processes which are considered essential components in the planning of teacher education (Dembele and Miaro-II; 2003). These components are: teaching, training, organization and research. According to Thomas (1997), an effective teacher education model should embrace all the four components. Tulasiewicz and Adams (1995) and Eurydice (2002) generally categorize teacher education models into two. These are the concurrent or integrated and consecutive models. These models characterize the organization and structure of teacher education in many countries though with variations from one country to another.

The concurrent model entails the integration of all teacher education components which run concurrently. This means that the teaching subject content, pedagogical content, micro-teaching and teaching practice are integrated and run concurrently. Eurydice (2002) points out that, studies on teacher education in the European countries indicate that there are two variations of the concurrent models. These include a combination of general education and professional education without a final on-the-job training (OJT) phase and a combination of general education and professional education with a final on-the-job (OJT) phase. In the consecutive model, the subject content is taught first followed by the pedagogical content and
later teaching practice. Eurydice (2002) enumerates four variations of the consecutive teacher education models. These are;

(a) General education only where there is no professional training

(b) General education and the final OJT phase.

(c) General education followed by professional training but with no final OJT phase.

(d) General education followed by both professional training and the final OJT phase.

The most widely used models in many countries are the concurrent models. As noted by Eurydice (2002), studies on teacher preparation in Europe, much of the variations are not from teacher education itself but rather dictated by the elementary and secondary school curricula followed by pre-service teachers.

Teacher education models can also be categorized into three groups based on their point of focus. These models include;

a) Pedagogical teacher education models. Their main focus is the instructional roles of teachers and their personal development. As noted by Thomas (1997), the use of pedagogical teacher education models that emphasize competency and behavioural approaches is the most common in Africa in general and East Asia in particular.

b) Organizational teacher education models. These models concentrate on how teacher preparation, induction and in-service education are organized.

c) Research teacher education models. They focus on generation of new ideas for better quality teaching, training and education.

Thomas (1997) point out that pedagogical teacher education models aim at understanding the processes of teaching and learning mainly drawing from psychology. These models include;

(a) The traditional craft or content-based model which is concerned with the transference of content. The emphasis in this case is on knowledge and skills acquisition with little room for learner participation.

(b) Discovery learning teacher education model. It emphasizes on the role of self-direction by the learner under the guidance of the teacher.
(c) Behavioural control and or modification teacher education models which focus on the change or
teacher behaviour modification. They contain a structure comprising a set of learning and teaching
sequences. Each sequence is to be mastered before the learner can progress to the next.

(d) Ethnographic-sociolinguistic teacher education model. The point of focus for this model is what
goes on in the classroom on a day-to-day basis. It is concerned with classroom culture.

(e) Rational approach teacher education model. It applies analytical philosophy to educational issues.
Teaching in this model is concerned with rationality as part of the practice of teaching.

Organizational teacher education models are mainly aimed at meeting teacher demand and supply at a
particular time within a country. Tulasiewicz and Adams (1995) argue that organizational teacher education
models are used by policy makers and planners in terms of duration of training, sequence in the training
phases, the nature of training, selection criteria, agreed accreditation procedures and rationalization of
access to the profession. There are various types of organizational teacher education models namely:

(a) College or faculty-based teacher education model. This is also referred to as the conventional
model as it has been the method of teacher training for over a century. In this model the trainee
spends the greater portion of time learning to become a teacher at a college of a faculty. The time
spent on teaching practice is normally about 10% to 15% of the total training time.

(b) School-based teacher educational models. In these models, decisions about the organization of the
curriculum and structure and the nature of the teaching practice payment of staff involved in the
training and assessment are shared between the school and the training institution (Thomas, 1997).
This model has been used in England and Wales and also in Uganda and Kenya though in a small-
scale.

(c) Mentoring teacher education model. There are various variations within this model which include
the Collaborative Schools Model (CSM), the Professional Development School Model (PDS) and
the Hong Kong Model. The Collaborative Schools Model is a variation of the school-based model
and involves the use of a mentor who provides support, assists a pre-service teacher in developing
classroom management skills, lesson planning, gaining familiarity with teaching resources and
reflective practice. The model also involves a school coordinator who identifies qualified mentor
teachers and provides support to mentors and pre-service teachers and a university or college facilitator who plays the role of a mediator and enables open communication between all parties. He or she ensures that all components of the school-based experience model are functioning as expected. The model has been in use in the University of Alberta in Canada.

The Professional Development School Model (PDS) involves placing of the pre-service teachers in schools early in their training and linking them with exceptional leading teachers (Cooperating teachers) in those schools. The model uses shared supervision between the university supervisors and cooperating teachers with the latter taking on greater responsibility in observation and assessment. The Hong Kong model provides a framework for a school-university partnership that seeks to encourage a professional learning community that includes school mentors, school principal, practicum coordinator and university supervisors. The tasks of the mentors, school principals and practicum coordinators are similar to those of the mentors, school coordinators and university/college facilitators in the collaborative schools model mentioned earlier.

(d) Alternative needs response teacher education model. The main focus of this model is the need to find alternative ways that can deliver training more cheaply and qualitatively. In addition, the model also is used to increase the number of teachers quickly in a given country. Currently, some countries such as Guinea, Namibia, Australia, USA and many others are experimenting on alternative teacher education models with a view of addressing their unique quantitative and qualitative needs.

Research teacher education models aim at generating new ideas for better quality teaching, training and education. As commented by Tulasiewicz and Adams (1995), Eurydice (2002) and Thomas (1997) models of teaching like scientific models generate research hypotheses which are testable and provide useful data and findings to the field. Over the last two decades, research in teacher education has moved its focus from teacher behaviour to pupil response, teaching process to the current interest on classroom ecology as a basis for examining fundamental interpersonal effectiveness criteria. Research
models of teacher education target a revitalized approach to teacher training with an emphasis on quality. As noted earlier, the concurrent content-based pedagogical models that emphasize on competency and behavioural approaches to teaching and learning are the most common in many developing countries and some developed ones too.

2.4 Context-Based Learning Model as an Innovative Technique in Teacher Education

Tiwari, Wong and Lai (2005) argue that there is no universally accepted definition of the term context-based learning. However, Merriam and Caffarella (1999) and Jonassen, Peck, and Wilson (1999) indicate that most scholars define context-based learning as a process where learning is driven by the real world context, culture and tools in the learning environment. Context-based learning is based on constructivist arguments that knowledge cannot be simply transmitted from the teacher to the learner since learners do not have the same experiences as the instructor (Choi & Johnson, 2005). Therefore, learners’ interpretation of the experiences would be different from the instructor’s. Tiwari, Wong and Lai (2007) comment that the aim of context-based learning is to engage learners in active, constructive, intentional, authentic and cooperative learning.

Mokuku and Jobo (2005) in the UNESCO Technical Paper No.2 of 2005 recommend that teacher education in Sub-Saharan Africa should provide pedagogical techniques that foster higher order thinking skills, support decision-making, involve participatory learning and improve on questioning skills. This will challenge teachers to provide opportunities for active learners’ participation and decision-making in their classrooms. The Context-based learning model is an innovative teaching technique that may provide such
opportunities to a pre-service teacher as noted by Tang et al., (1997). However, as argued by Choi and Johnson (2005) research in context-based learning is not conclusive.

Preliminary research findings by Choi and Johnson (2005), Cheany and Ingebritsen (2005) and Kiggins (2007) indicate that learning promotes learner-centred learning through problem-solving, learner independent learning, group discussion and sharing. It also improves learners’ decision-making skills, active participation in the classroom and stimulates their curiosity in seeking solutions to the professional problems they face. In Kenya, context-based learning models have proved more effective in training health professionals than the traditional dependent didactic learning models as noted by Kang’ethe, Nafukho and Mutema (2002). They argue that context-based learning is a relatively new training technique in higher education in Kenya and hence it has not been embraced in most higher education training programmes. Indeed, even in those programmes where it is being utilized, there has been resistance from some educators.

The MoEST (2003) and the KESSP (2005) recommend development of more innovative teacher education training models that can improve the quality of teachers in Kenya. Farrell (2002) argues that there has been little progress in developing innovative teacher education programmes in Africa. The KESSP (2005) concurs with the said assertion and further comments that the current teacher education training model does not encourage pre-service teachers to effectively participate in their learning and consequently they do not allow adequate learner participation in their classrooms. The document points out that, to improve teacher education in Kenya, innovative teacher training techniques should be encouraged.

### 2.5 Teaching Practices in Kenya Primary Schools

Dembele and Miaro – 11 (2003) point out that findings drawn from studies done in Sub – Saharan Africa indicate that undesirable teaching practices such as rigid chalk – and – talk or teacher-dominated are evident in primary schools. Studies done in Kenya also reveal that lecturing and use of simple recall
questions by teachers and taking notes by learners are common in primary school classrooms (Akuno, 1997; Mohammed, 1994; Shiundu & Omulando, 1992; Midega, 1990 and Makobi, 1985).

Thyalk and Cuban as cited by Dembele and Miaro – 11 (2003) attribute this problem to what they call the ‘grammar of schooling’. In other words, ‘a set of expected patterns teachers have historically constructed regarding what teaching entails’. Unlike any other professions, teachers start being moulded in their profession right from the point where they enter school. They may copy what they see or have seen their respected teachers do which becomes a set of expected patterns, beliefs and ideas on what teaching entails. In support of this argument, Dembele and Miaro – 11 (2003) argue that there is a strong body of knowledge that suggests that teaching practices are formed by ideas, beliefs and images that teachers begin to develop well before embracing teaching as a career. Schwille, Dembele and Schubert (2007) point out that research indicates that this type of learning often has a powerful effect on how future and beginning teachers think about teaching. Indeed, many teachers are greatly influenced in teaching by how they themselves were taught in elementary and secondary schools as noted by Schwille, Dembele and Schubert (2007).

These already constructed set of beliefs and ideas are difficult to change especially if traditional content-based teacher education models are used in training teachers. Storeng (2001) argues that the traditional content-based teacher education models do not attempt to challenge these ideas, beliefs and images. This therefore, calls for a change in the teacher education models that help the pre – service teacher challenge his/her already constructed set of beliefs, ideas and images of what teaching entails.

2.6 The Current Kenya Primary Teacher Education Model

A primary teacher certificate course in Kenya is scheduled across two calendar years. It is based on the concurrent content-based pedagogical model in which all the components of teacher education are
integrated and which is teacher-centred with little room for learner participation, innovation and creativity (MoEST; 2003). The model consists of three main elements which are:

a) Classroom learning in subject area content and professional courses in education and teaching methods

b) Micro-teaching

c) Teaching practice

These components interact as shown in figure 1.1. During the two years, pre-service teachers spend much of their time in classrooms where they receive lectures and tutorials on specific subject content and education course content. In addition, the pre-service teacher takes a few sessions of micro-teaching where he/she practices the teaching skills under the supervision of a tutor as noted by KESSP (2005). A teacher trainee also undertakes three teaching practice placements, one in the first year and the other two in the second year (Shiundu & Omulando, 1992). During teaching practice, the learner is attached to a primary school under the supervision of college supervisors. The pre-service teacher is able to familiarize himself/herself with the school operations.

This approach to teacher education commonly referred to as the traditional content-based approach has been criticized as being more subject-centred than learner-centred. As a result, learners are not adequately involved in their learning and thus, they leave college feeling inadequately prepared for classroom teaching (GoK., 2005; Shiundu & Mohammed, 2005; Armour & Booth, 1999; Kiggins, 1999, Cambourne and Kiggins, 2004 and Bogonko, 1992). In addition, teacher education courses in primary teacher training colleges present a fragmented view of learning that is often not context-based leading to little or no connection between theory and practice to a trainee teacher (GoK, 2005).

As noted by Shiundu and Mohammed (2005), a World Bank research report by Vespoor (1989: 2) on educational change programmes in twenty-one countries state that:

Successful educational change is built on effective teacher training. 
A well designed and effectively implemented teacher training
programme found to be (sic) key element in the successful implementation and institutionalisation of change programmes (P. 2).


Merryfield (1986) points out that, pre-service teachers must first experience the desirable teaching methods (inquiry methods) during their training in order to use them in their classrooms after graduation. In recognition of these limitations of the current Kenya primary teacher education model, there is need for development of new and enhanced primary teacher education models that try to address the mentioned glaring shortcomings.

2.7 On-going Initiatives on Teacher Quality Improvement Programmes in Kenya

The Ministry of Education recognizes that continuous and sustainable improvement of the quality of education is fundamentally pegged on effective professional development programmes for teachers. However, most of the on-going teacher quality improvement programmes in Kenya focus on in-service training for practising teachers and little on pre-service training of teachers. The Ministry of Education through the Sessional Paper No. 1 of 2005 on ‘A Policy Framework for Education, Training and Research’ argues that the current practising teachers have weaknesses that need to be addressed through innovative in-service teacher education programmes. Before the implementation of the KESSP, the government was running in-service teacher education programmes without coordination thus, they did not produce the desired results. According to the KESSP document of July, 2005 p. 116, the on-going primary teacher education in-service programmes include;
a) School-based Teacher Development (SbTD) launched in 2001 and completed in 2004. It aimed at strengthening primary subject specialists in Mathematics, English and Science in all the primary schools in Kenya. The programme trained 50,000 teachers country-wide as Key Resource Teachers (KRTs) for all primary schools in the country. In 2005, the Ministry of Education launched an extension of the SbTD programme that covered Kiswahili and Guidance and Counselling. By the completion of the programme in 2006, it was aimed training 36,000 teachers (18,000 in Kiswahili and 18,000 in Guidance and Counselling) in all the primary schools in Kenya.

b) School-Empowerment Programme (SEP) was developed in response to the challenges of Free Primary Education (FPE) policy. The aim of the programme is to help head-teachers, deputy head-teachers and senior teachers as well as KRTs to effectively respond to the FPE challenges. The programme uses a blended learning approach to strengthen management and leadership capacity as well as pedagogical effectiveness through print, audio, radio, and video materials in addition to school-workshops and local meetings. The programme was completed in June 2006.

c) Cluster programme started in 2002 and builds on the existing structures of the MoEST. The programme consists of 500 schools in Kenya drawn from Early Childhood Education (ECED) and Non-Formal Education (NFE) institutions in ASAL districts and Nairobi slums. It aims at promoting child-centred interactive/participatory and gender responsive methodologies with special focus on classroom learning processes in the lower primary level.

d) KENSIP – Kenya Schools Improvement Programme which is a school-based improvement programme supported by the Aga Khan Foundation with funding from Canadian International Development Agency (CIDA). The programme operates in Coast Province. It was started in 2001 and focuses on developing child-centred teaching methods using locally available resources.

e) Strengthening Mathematics and Science in Primary Schools (SMASSE) aims at providing in-service training to tutors in primary teacher training colleges and primary school teachers (Science KRTs). The programme is aimed at building on the work done under the SbTD programme.
Though some of the programme initiatives are aimed at addressing emerging challenges, they point out that there are weaknesses in the training of pre-service primary teachers and therefore, there is need for equally innovative training programmes for pre-service primary teacher education. The main aim of this study was to formulate such a programme.

2.8 The Need for New and Enhanced Primary Teacher Education Models in Kenya

As mentioned earlier, the current Kenya primary teacher education model has several limitations which have a direct impact on the quality of teachers produced in primary teacher training colleges in Kenya. Consequently, the quality of education in primary schools is negatively affected. Carron and Chau (1996) indicates that the quality of education depends on what goes on in the classroom. This clearly demonstrates the need for a well-trained teacher who understands and organizes the classroom environment in such a way that the learners will achieve maximum learning. Hammond (2006) points out that the need for powerful teaching is now more important in contemporary society where standards for learning are higher than they have ever been and where citizens and workers need greater knowledge and skills to survive and succeed.

Carpenter and Blance (2007) argue that production of a well-qualified teacher of such a calibre requires being in a community of practice and fully participating in that community. Adesina, Daraniola and Talabi (1989) emphasize the need for cooperative learning or a social interaction model as a means of improving teacher education. All this implies thinking differently about practical experience at the pre-service level and makes a case for structured induction.

Though desirable teaching practices are context – bound, Craig et al., (1998) identify the following as the criteria for evaluating and determining an effective teacher. One who:

(a) knows his/her subject
The criteria above indicate that learning to teach involves the dual task of constructing a practice and professional identity. Anne (2001); Borko and Putman (1995); and Glasser (1987) among other researchers have offered a list of the types of knowledge, skills, dispositions and values that effective teachers must have mastery of. These include:

(a) General pedagogical knowledge which includes knowledge of learning environments and instructional strategies, classroom management and knowledge of learners and learning.

(b) Subject matter knowledge. This consists of knowledge of the content and substantive structures and syntactic structures.

(c) Pedagogical content knowledge. This entails a conceptual map of how to teach a specific subject.

(d) Knowledge of learners context and disposition to find out more about learners, their families and their schools.

(e) A repertoire of metaphors in order to bridge theory and practice.

(f) External evaluation of learning

(g) Clinical training.

(h) Knowledge of strategies, techniques and tools to create and sustain a learning environment or community and the ability to employ them.
(i) Knowledge, skills and dispositions to work with children of diverse cultural, social and linguistic backgrounds.

(j) Knowledge and attitudes that support political and social justice as social realities that make teachers very important agents of social change.

Even though as argued by Indoshi (2003), pre-service training cannot produce a super teacher, its organization, implementation and development remain crucial to the professional development of a teacher. It is the foundation upon which all other professional teacher education learning is based. Feiman – Nemser (2001) argues that the central tasks of learning to teach for a pre-service teacher include the following:

(a) Examining beliefs critically in relation to vision of good teaching.

(b) Developing subject matter knowledge for teaching.

(c) Developing an understanding of learners’ learning and issues of diversity.

(d) Developing a beginning repertoire.

(e) Developing the tools and dispositions to study teaching.

Often the first task, which is fundamental and deserves particular attention, is neglected. The said task relates to the already established images and beliefs which pre-service teachers bring to their learning and influences their learning. Unlike other professions, the practice of teaching is said to begin well before formal teacher preparation (Calderhead & Robson, 1991; Craig, Kraft & du Plessis, 1998).

The fifth task of developing tools and dispositions to study teaching is also not well-accomplished in many teacher education programmes in developing countries (Feiman – Nemser, 2001). This task relates to the concept of reflection as popularised by Schon (1983). The task entails re-evaluation of the already held beliefs, images and practices of what teaching entails in accordance with the desirable teaching methods and the specific teaching environment a teacher operates.
The practice of reflection helps pre-service teachers to compare their own individual beliefs and practices on teaching and learning with the desirable ones and apply the correct ones in the specific teaching context. Feiman–Nemser (2001) proposes a set of essential elements of a well-designed pre-service teacher education programme which includes conceptual coherence, purposeful integrated field experiences and attention to teachers as learners. The issue of purposeful field experiences presupposes a well-designed teaching practice that helps the learners to relate theory to practice and also actively involves them in their learning through active solution of the classroom problems they encounter and re-evaluation of their teaching practices and knowledge (Kiggins; 2007).

Pre-service teacher education must not only be purposeful in that it is context-based but must also give room to pre-service teachers to effectively participate in their learning (Cambourne and Kiggins, 2004). Context-based learning promotes and enhances active learner involvement and integration of knowledge. Pre-service teachers work in groups under the guidance of a professional and experienced facilitator. They explore a series of teaching-learning process scenarios and teaching experiences. These provide information for focus discussion groups. They are also able to discuss and solve teaching and process problems encountered during their classroom teaching. Context-based learning model is a learner-centred approach aimed at enabling learners to effectively participate in the learning process and take charge of their learning (Choi and Johnson; 2005).

The purpose of this study was to determine whether the current primary teacher education model in Kenya can be improved through context-based learning approaches. As argued by Hopkins (2002), one may think that these elements are beyond the reach of developing countries however, this is not the case. Some successful teacher education programmes in African countries such as Guinea, Namibia and Botswana which incorporate some aspects of context-based learning elements are a pointer to the fact that it is possible. It is hoped that this study will add value to the current Kenya primary teacher education model by purposively incorporating and integrating four teacher education elements namely; school-based learning, classroom and micro-teaching learning, cooperative learning and reflective learning.
2.9 Summary

Literature reviewed in this chapter shows that there is a close relationship between the teacher’s teaching skills and the quality of learning in the classroom. However, undesirable teaching practices are often the norm than the exception in many primary school classrooms in Sub-Saharan Africa. There has been small-scale pre-service teacher quality improvements in a few African countries but the majority, including Kenya, still retain the traditional pedagogical content-based teacher training models which do not adequately involve the pre-service teacher in his/her learning and consequently, he/she transfers the same problem to his/her primary school classroom. This problem is evident in the current Kenya primary teacher education model which has limitations such as a fragmented view of learning, lack of adequate learner involvement and learning that is not designed to stimulate pre-service teachers’ problem-solving skills. This has a negative impact on the quality of teachers produced.

Currently, teacher education should aim at training teachers to be more reflective, innovative and creative in their classroom teaching. The Ministry of Education in Kenya, through its collaboration with other partners, has tried to address these limitations through some quality improvement in in-service teacher education programmes such as SMASSE and KENSIP. However, the Kenya pre-service teacher education model has received little attention in terms of quality improvement aimed at addressing the said limitations. This calls for deliberate effort to generate a pro-active and reflective teacher education programme, hence the need for this study.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter considers research methodology that was used in carrying out the study. The sections in this chapter include; research design, population of the study, sample and sampling procedures, research instruments, pilot study, data collection procedures and data analysis.

3.1 Research Design

A quasi - experimental design was used in this study. It involved a pre – test / post – test longitudinal panel control group. The quasi – experimental design was selected because it is not possible to randomize all characteristics of the experimental and control groups. As argued by Fraenkel and Wallen (2006), Colin (2002) and Borg et al (2003), it is difficult to fully randomise all the characteristics of the experimental and control groups in educational studies which fall under natural experiments hence, the need for a quasi – experimental design. The experimental and the control groups were selected through stratified random sampling of first year primary pre – service teachers from Meru and Egoji teachers colleges respectively.
The selection of the experimental and control groups from two colleges was aimed at controlling experimental treatment diffusion. As earlier indicated, Meru and Egoji primary teachers colleges are about forty-five kilometres away from each other thus; experimental treatment diffusion was controlled. In addition, the researcher did not reveal the real purpose of the study to both groups as a way of controlling extraneous variables. Borg, Gall and Gall (2003) argue that a researcher can withhold some information on the purpose of the study in order to enhance its validity. The study also required constant monitoring by the researcher thus, the selection of the two institutions that are not very far away from each other. A diagrammatic representation of the quasi experimental design selected was as follows;

```
Experimental   R   O1   X   O3

Control       R   O2   X   ☐
```

Where

- \( R \) = Randomization for both experimental and control groups
- \( X \) = Treatment for the experimental group
- \( X = \) No treatment
- \( O1 = \) Pre-test (observation) for the experimental group (Appendix A-Classroom observation schedule)
- \( O2 = \) Pre-test (observation) for the control group (Appendix A-Classroom Observation Schedule)
- \( O3 = \) Post-test (observation) for the experimental group (Appendix A-Classroom observation schedule)
- \( O4 = \) Post-test (observation) for the control group (Appendix A-Classroom observation schedule)
Randomization of the two groups, use of a control group, training of classroom teaching observer, constant monitoring by the researcher and the quasi – experimental design ensured control of extraneous variables and thus, the validity of the study (Colin, 2002; Mugenda & Mugenda, 1999; Hulley & Cummings, 1988; Borg et al 2003; ).

3.2 Variables

Independent variables in this study were the focus discussion groups (co-operative learning) and the traditional method of training teachers. The experimental group was taught through the focus discussion groups while the control group was trained through the traditional method. The dependent variables were derived from the pre-service teachers classroom observation schedule and included; teacher-learner interactions, teacher’s motivation of learners, teacher’s instructional system planning, teacher’s use of instructional resources in the classroom and teacher’s classroom management and control skills. These dependent variables are affected by the method of training pre-service teachers. The difference between the experimental and the control group on each of the dependent variables was tested through the use of an independent t-test for equality of means.

3.3 Location of the Study

The study involved first-year pre-service teachers from Meru and Egoji teachers colleges in Meru Central District, Eastern Province of Kenya. The two colleges were purposively sampled on the basis of being the experimentally accessible population. Colin (2002) and Borg et al (2003) argue that for experimental and causal comparative studies, the sample can be drawn from a much more limited accessible population in order to carry out an in-depth study and ensure proper control of variables. However, the researcher must be certain that the accessible population is closely related to the target population on a few key variables to ensure population validity. In this study, pre-service primary teachers in public primary teacher training colleges are selected from a national pool and the criteria for selection such as the minimum entry
requirements are the same as noted by Sessional Paper No. 1 of 2005, MoEST (2003), Kinyanjui (1997) and Kimui (1988). Thus, on the basis of the two variables which are fundamental to this study, first-year pre-service teachers are closely related at the college entry point. In addition, the study adopted a quasi-experimental research design.

The location of the study was selected because it has the experimentally accessible population to the researcher who conducted focus discussion groups meetings (FDGs) for the experimental group to ensure proper control of the FDGs meetings’ agenda. The FDGs agenda was a balance between what is provided in the focus discussion group schedule and the issues raised by FDG members based on their reflective practice diary recordings. The researcher also carried out two classroom observations per pre-service teacher for both the experimental and control groups while the others were done by a trained research assistant.

### 3.4 Target Population of the Study

The study involved first-year pre-service teachers. Every year, approximately 9,000 pre-service teachers are admitted to 21 public and 10 private primary teacher training colleges in Kenya (MoEST, 2005 and Sessional Paper No. 1 of 2005). The two colleges selected had a combined first-year pre-service population of 1049 pre-service teachers. First years were selected for homogeneity purposes in relation to knowledge and skills in teaching and classroom practice as noted earlier.

### 3.5 Sample Description and Sampling Procedures

The sample comprised a total of 80 first year Meru and Egoji teachers college pre-service teachers for the experimental and control groups respectively. The total population of first-year pre-service teachers for Meru and Egoji teachers colleges were 485 and 564 respectively. Stratified random sampling based on gender was used to select forty (40) pre-service teachers from Meru teachers college to form the experimental group and forty (40) pre-service teachers from Egoji to form the control group. The same
sampling technique was used to select 10 pre-service teachers per focus group (5 for each gender per group) for the experimental sample.

Borg et al (2003) argue that since most research projects are financially and time constrained, a minimum sample of 5 cases in each group is desirable for causal – comparative and experimental studies. Fraenkel and Wallen (2009) recommend a minimum sample size of 30 individuals per group for causal comparative and experimental studies. Cohen and Manion (1994) observe that there is no agreed size of the sample but a small sample is preferred for group-work related activities. The selection of the sample depends on the purpose of the study and the nature of the sample being studied. The sample selected in relation to the total population per each TTC and the numbers of groups for each category were as shown in table 3.1.

Table 3.1 Sampling Grid

<table>
<thead>
<tr>
<th>College</th>
<th>Total Population</th>
<th>Sample</th>
<th>Focus Discussion Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meru (Experimental)</td>
<td>485</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Egoji (Control)</td>
<td>564</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

Stratified random sampling was used to select four focus discussion groups (FDGs) of ten members each from the experimental group. Each FDG had an equal number of male and female pre-service teachers. The researcher facilitated focus discussion groups once per week for each group. This ensured proper control of the FDGs meetings’ agenda based on the FDG schedule and the pre-service teachers’ reflective practice recordings. The main task of the group facilitator was to guide the discussions through the use of probing questions on teaching and classroom practice based on teacher trainees’ experiences during school-based learning and as indicated in the reflective teaching diary. He also ensured that the focus discussions groups stayed on course. Each group met once per week for one hour per session. The rate of meetings was purposively selected in consideration of subjects’ workload and in order not to put so much pressure on
them which could have led to high dropout rates. Borg et al (2003) point out that for longitudinal studies a researcher needs to keep the demands on the subjects to the minimum in order to control attrition rates.

3.6 Research Instruments

The research instruments used in this study were divided into two parts;

a) Data collection research instruments which included:

i. A developed pre – test (pre-observation) and post – test (post-observation) in form of a detailed classroom observation schedule on teacher actual classroom teaching (Appendices A and B). The classroom observation schedule used in this study was a researcher-developed instrument adapted from the Meru Teachers Training College, Georgia and Maryland Universities’ Teachers Assessment Observation Instruments. It had items for assessment of pre-service teacher’s instructional system planning, lesson presentation, mastery of subject matter, use of teaching resources and classroom management. This instrument included the same items as the one used by primary teacher training college tutors for teaching practice assessment. Classroom observations were made for any of the subjects taught by the learner teacher at the point of pre-tests and the teaching of the same subjects was evaluated during post-tests.

ii. A questionnaire for the experimental group for researching on their perceptions and experiences of the focus discussion groups (Appendix C). The questionnaire had both open-ended and closed-ended items. The closed-ended items solicited specific information while the open-ended sought for respondent’s own opinions and views.
b) Treatment research instruments:

i) A focus discussion group schedule for guiding the facilitator working with the focus groups in facilitating purposeful discussions (Appendix D).

The focus discussion group schedule was based on the main elements of classroom observation schedule mentioned in (a, i).

ii) A reflective teaching diary for pre-service teachers aimed at helping them reflect on their teaching and classroom behaviour practices (Appendix F).

The reflective teaching diary was based on the main aim of reflective practice as exemplified by Schon (1983) which is aimed at helping professionals to retrospectively evaluate their performance in relation to the requirements of the profession and seek solutions to the problems they encounter.

3.7 Pilot Study

The pre – test / post – test classroom observation schedule was piloted at Kigari Primary Teachers College and its reliability and validity evaluated. Stratified random sampling on the basis of gender was used to select two groups of 10 pre-service teachers each. One trained research assistant was selected for the pilot study. The questionnaire, the focus discussion groups schedule and the reflective teaching diary were also piloted and also evaluated through experts comprised of experienced college tutors and lecturers in primary teacher education from Kenya Methodist University.

3.7.1 Validity

The content validity of the classroom observation schedule, the questionnaire, the focus discussion group schedule and the reflective teaching diary were evaluated through expert evaluation and scrutiny by
experienced college tutors from Kigari Primary Teachers Training College and lecturers in primary teacher education from the Kenya Methodist University. Validity of the research and treatment instruments was also evaluated through actual administration of the instruments to the pilot group. Unclear and ambiguous items on the questionnaire, the focus discussion group schedule and the reflective teaching diary were corrected or removed and where necessary others were added. One research assistant was selected from experienced tutors and used for both the pilot and the actual study for classroom observations. She was trained in order to harmonize the classroom observation ratings. This helped in enhancing the validity of the study.

3.7.2 Reliability

Reliability \((r_{tt})\) of the observation schedule was tested through the split – half method. The Spearman-Brown prophecy formula was applied to the correlation to determine the reliability.

\[
\text{Reliability of scores on total test} = \frac{2 \times \text{reliability for 0.5 of the test}}{1 + \text{reliability for 0.5 of the test}}
\]

Table 3.2 Split Half Reliability \((r_{tt})\) Analysis

<table>
<thead>
<tr>
<th>Reliability Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of cases = 20.0</td>
</tr>
<tr>
<td>N of Items = 2</td>
</tr>
<tr>
<td>Correlation between forms = .7741</td>
</tr>
<tr>
<td>Guttman split-half = .8606</td>
</tr>
<tr>
<td>1 Items in part 1</td>
</tr>
<tr>
<td>1 Items in Part 2</td>
</tr>
<tr>
<td>Alpha for part 1 = 1.000</td>
</tr>
<tr>
<td>Alpha for part 2 = 1.000</td>
</tr>
</tbody>
</table>

As indicated in table 3.2, reliability \((r_{tt})\) of \(.8727\) was obtained from the scores in Appendix F through the use of Statistical Package for Social Sciences (SPSS). This level of reliability was considered adequate for the study. Babbie, Halley and Zaino (2003) and Gibbon and Morris (1987) point out that a reliability \((r_{tt})\)
level of .60 and above is a strong one and thus, adequate for a test. Fraenkel and Wallen (2009) recommend a reliability coefficient of at least .70 or above as adequate.

Reliability of the questionnaire, focus discussion group schedule and the reflective teaching diary was evaluated through administration of the said instruments to the pilot group and subsequent refining of some items.

### 3.8 Data Collection Procedures

Before commencing the study, the researcher sought permission to conduct research from the Ministry of Education and the principals of Meru and Egoji TTCs. The purpose of the study was explained to the principals. The pre – test and post – tests in form of classroom observation schedule (Appendix A) were done by one trained observer and the researcher during the normal teaching practice supervisions. Primary pre – service teachers are required to do three sessions of teaching practice (approximately one month per session) taking approximately three months in the two years training period. The first session is conducted in the first year during their second term.

The second and third are conducted in their second year. A total of two pre – test observations for each pre-service teacher were made during the first seven days of the first session of teaching practice. The mean of the two observations for each learner constituted the pre-test results. The meetings of focus discussion groups (FDGs) started immediately after the pre-tests under the facilitation of the researcher. Each meeting of the FDG was held once per week for one hour. The first FDG meeting was mainly for planning school experiences and for team building. There were a total of seven focus discussion group meetings for each group spread over two teaching practice sessions. Pre-service teachers were required to fill in the reflective practice diaries every day after their lessons. Information contained in the diaries was used during the focus discussion group meetings.
Pre-service teachers were expected to engage in problem-solving throughout the week as they filled the reflective practice diaries. Each pre-service teacher was asked to come up with solutions to the problems he/she faced during their reflections within the week. The solutions to each pre-service teacher’s problems were asked first before engaging the rest of the group members in the discussion of the same during the focus discussion group meetings. This ensured that pre-service teachers were engaged in individual problem solving activities throughout the week while the focus discussions helped them engage in collaborative problem-solving. Problem solving activities generally included planning, reading, discussing, researching and presenting. The second teaching practice session was only used for focus discussion group meetings and reflective practice. No classroom observations were made. During the first seven days of the third teaching practice session, two post-test observations for each pre-service teacher were made. The post-test observations were made for the teaching of the same subject as the one observed during the pre-test for each pre-service teacher. The mean of the two observations was used as the post-test results. The questionnaires for the experimental group were distributed after the post-test observations and the reflective teaching diaries were collected.

3.9 Data Analysis

Several strategies were used to process and analyze data obtained from the classroom observation schedule. First, all the data obtained were assembled, coded and analyzed. Second, descriptive statistics in form of frequencies means, gain scores and standard deviations were used to analyze data obtained from the classroom observation schedule. Finally, the means for each dependent variable per group were used to compare the difference in scores between the experimental and the control groups for both the pre-test and post-test data obtained. The Statistical Package for Social Sciences (SPSS 11.0) was used for data analysis.

The study hypotheses were tested through the use of a t-test for independent means at a set significance level of (p < .05) as shown in Table 3.3. Borg et al (2003) argue that the preferred statistical method for testing the difference between means is the t-test. Fraenkel and Wallen (2009) point out that a t-test for
independent means is a statistical technique for comparing the mean scores of two independent groups. In this study, there were two randomly selected groups; the experimental and control groups.

Table 3.3 Inferential Statistics used in to test the hypotheses.

<table>
<thead>
<tr>
<th>RESEARCH HYPOTHESES</th>
<th>INFERENTIAL STATISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho₁</td>
<td>Independent t-Test</td>
</tr>
<tr>
<td>Ho₂</td>
<td>Independent t-Test</td>
</tr>
<tr>
<td>Ho₃</td>
<td>Independent t-Test</td>
</tr>
<tr>
<td>Ho₄</td>
<td>Independent t-Test</td>
</tr>
<tr>
<td>Ho₅</td>
<td>Independent t-Test</td>
</tr>
</tbody>
</table>

Data obtained from the questionnaires and the reflective practice diaries were coded by putting the response on each item per pre-service into specific main themes based on the response of each respondent. The responses were then converted into frequencies and percentages.

3.10 Summary

This study adopted a quasi-experimental research design that involved a pre-test/post-test longitudinal panel control group. Eighty pre-service teachers were randomly sampled from Meru and Egoji TTCs to form the experimental and control groups respectively. The experimental group was further subdivided into four stratified randomly sampled groups of ten to form focus discussion groups of equal gender proportions. The FDGs met once per week for a period of seven weeks during the pre-service teachers teaching practice.
The study used two data collection instruments namely; a pre-test/post-test classroom observation schedule for assessing pre-service teachers classroom performance and a questionnaire for the experimental group for finding out their perceptions and experiences of the focus discussion groups. It also involved two treatment research instruments; a focus discussion group schedule for facilitating FDGs and a reflective practice diary aimed at helping pre-service teachers reflect on their teaching and therefore, evaluate their classroom teaching performance. The research instruments were piloted at Kigari TTC and the reliability established and the validity evaluated through expert evaluation. Data were collected by the researcher and one trained observer during the pre-service teachers teaching practice sessions. Data obtained were analyzed by use of descriptive statistics in form of percentages, means, gain scores and standard deviations as well as a t-test for testing the hypotheses.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction
This chapter gives a report on the analyzed data and the findings which were obtained through classroom observation schedules, a questionnaire for the experimental group and the reflective practice diaries. The sections in this chapter are; methods of data analysis, pre-test classroom observation results, post-test classroom observation results, experimental group perceptions and experiences of the focus discussion groups (FDGs), pre-service teachers’ reflective practice diary recordings and discussions.

4.1 Methods of Data Analysis

Data obtained were coded for computer use. The pre-service teacher was the unit of analysis. There were a total of 80 pre-service teachers for both the experimental and control groups (40 pre-service teachers for each group). The ratio of male to female for each group was 50:50. The classroom observation schedule items were categorized into five dependent variables namely instructional systems planning, teacher-learner interactions, learners’ motivation and interest, use of teaching resources and classroom management and planning. All the scores on each dependent variable were added up to make a total score for the specific variable for each of the two observations made per pre-service teacher. The mean of the two pre-test observations per each dependent variable was calculated for each pre-service teacher, converted into percentages and later used for data analysis as the pre-test results. The coding of the post-test data was similar to that of pre-test results. Two post-test observations were made and the mean for each dependent variable per pre-service teacher was calculated. The Statistical Package for Social Sciences (SPSS 11.0) was used for this purpose.

Data obtained from the classroom observation schedule were first analyzed using descriptive statistics in form of frequencies, percentages, means and standard deviations. Later, the mean for each dependent variable per group was used to compare the difference in scores between the experimental and the control groups through the use of an independent t-test for equality means at a set significance level of (p<.05). Data obtained from the questionnaires and the reflective practice diaries were coded by putting the response
on each item per pre-service teacher into specific main themes based on the response of each respondent. The responses were then converted into frequencies and percentages.

### 4.2 Descriptive Pre-test Classroom Observation Results

The essence of pre-test data analysis was to determine whether the experimental and control groups were significantly different from each other on the dependent variables under study. The mean scores for each specific dependent variable and the total mean score as well as standard deviation for each pre-service teacher were calculated. The results obtained are indicated in table 4.1. For comparison purposes, the scores for each dependent variable have been converted into percentages.

#### Table 4.1 Pre-Test Means and Standard Deviations for the Experimental and Control Groups per Dependent Variable and the Total Pre-service Teachers’ Score.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Learner’s ID</th>
<th>Mean</th>
<th>Gain Score</th>
<th>SD</th>
<th>SD Error of the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional System Planning</td>
<td>Experimental(n=40)</td>
<td>47.49</td>
<td>8.73</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>47.37</td>
<td>0.12</td>
<td>9.04</td>
<td>1.42</td>
</tr>
<tr>
<td>Teacher-learner Interactions</td>
<td>Experimental(n=40)</td>
<td>47.04</td>
<td>10.71</td>
<td>1.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>47.91</td>
<td>-0.87</td>
<td>12.05</td>
<td>1.90</td>
</tr>
<tr>
<td>Learners’ motivation and Interest</td>
<td>Experimental(n=40)</td>
<td>52.97</td>
<td>9.63</td>
<td>1.52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>53.20</td>
<td>-0.23</td>
<td>10.03</td>
<td>1.58</td>
</tr>
<tr>
<td>Use of Instructional Resources</td>
<td>Experimental(n=40)</td>
<td>33.45</td>
<td>14.16</td>
<td>2.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>28.58</td>
<td>4.67</td>
<td>12.86</td>
<td>2.03</td>
</tr>
<tr>
<td>Classroom Management and Control</td>
<td>Experimental(n=40)</td>
<td>49.12</td>
<td>7.99</td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>49.82</td>
<td>-0.70</td>
<td>7.59</td>
<td>1.20</td>
</tr>
<tr>
<td>Total Learner’s Score</td>
<td>Experimental(n=40)</td>
<td>48.12</td>
<td>7.64</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>47.62</td>
<td>0.50</td>
<td>8.47</td>
<td>1.33</td>
</tr>
</tbody>
</table>
Table 4.1 shows that the differences in mean scores between the experimental and control groups as indicated by the gain scores for each variable were minimal for each dependent variable except for the use of resources which had a gain score of (4.67) with an experimental group mean score of \( M = 33.45, \ SD = 14.16 \) against a control group mean score of \( M = 28.58, \ SD = 12.86 \). Instructional system planning had the lowest gain scores of (0.12) with an experimental group mean of \( M = 47.49, \ SD = 8.73 \) and a control group mean score of \( M = 47.37, \ SD = 9.04 \). It can also be noted that except for learners’ motivation and interest which had a mean score \( M = 52.97, \ SD = 9.63 \) for the experimental group and a mean score \( M = 53.20, \ SD = 10.03 \) for the control group, other variables had a mean score that is below average. Use of instructional resources in the teaching process had the lowest mean score \( M = 33.45, \ SD = 14.16 \) and \( M = 28.58, \ SD = 12.58 \) for the control and experimental group respectively.

The standard deviations were largest in the use of instructional resources (14.16) for the experimental and (12.86) for the control groups followed by teacher-learner interactions with an experimental group standard deviation of (10.71) and (12.05) for the control group. These pre-test preliminary findings indicate that the experimental and control groups had minimal differences in all the dependent variables under study, except for use of instructional resources.

### 4.3 Pre-Test Classroom Observation t-Test Results

It was important to determine whether the pre-test data obtained met the t-test assumption of homogeneity for the experimental and control groups. Stem and leaf plots for the total score for each group were plotted for this purpose. Tables 4.3 and 4.4 indicate the pre-test stem and leaf plots for the experimental and control groups respectively.
Pre-test stem and leaf plots in Table 4.2 show that the experimental group pre-test scores distribution were near normal, although there were two extreme values at the negative end of the scale. This means that the experimental group scores distribution satisfied normal distribution assumptions for the use of a t-test.

Table 4.3 shows pre-test stem-and-leaf plots for the control group. It is evident from Table 4.3 that the control group pre-test scores distribution was normal, although there was one extreme value at the negative end of the scale. This means that the control group scores distribution satisfied the normal distribution assumptions for the use of a t-test.
To assess whether the experimental and the control groups were significantly different from each other on all the dependent variables of the study at the point of the pre-test, an independent sample t-test was conducted. The results are as recorded in Table 4.4.

Table 4.4 Pre-test Independent Sample t-test Values

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Laverne’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Instructional</td>
<td>Equal Variances</td>
<td>.106</td>
</tr>
<tr>
<td>System Planning</td>
<td>assumed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equal Variances not assumed</td>
<td>.060</td>
</tr>
</tbody>
</table>

Stem width: 10.00
Each leaf: 1 case(s)
<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher-learner Interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td>1.011</td>
<td>.318</td>
<td>.049</td>
<td>78</td>
<td>.1258</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Learners’ motivation and interest.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td>.828</td>
<td>.366</td>
<td>-.107</td>
<td>78</td>
<td>-.2348</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Use of Instructional Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td>2.032</td>
<td>.158</td>
<td>1.611</td>
<td>78</td>
<td>4.8758</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Classroom Management and Control.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td>.458</td>
<td>.501</td>
<td>-.389</td>
<td>78</td>
<td>-.6793</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Pre-service teachers Scores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal Variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4 shows that the Lavene’s test for equality of variances is not significant for all the dependent variables since all the significance levels obtained (Instructional system planning, \( p = .746 \), teacher-learner interactions \( p = .318 \), learners’ motivation and interest \( p = .366 \), use of instructional resources \( p = .389 \), classroom management and control. \( p = .501 \).
= .158), classroom management (p = .501) and the total pre-service teachers’ score (p = .401) are higher than the set significance level of (p < .05). Therefore, we can conclude that the population variances of the two groups do not differ significantly and thus, the row labelled equal variances assumed was used.

The main purpose of the pre-test was to find out whether the experimental and control groups were significantly different from each other before treatment. The obtained t-test for the total pre-service teachers’ score (t (78) = .279, p < .05) shows that the differences between the experimental and control groups were not significant. It is also evident from Table 4.4 that the two groups do not differ significantly in all the dependent variables under study namely; Instructional system planning (t(78) = .060, p < .05), teacher-learner interactions (t(78) = .049, p < .05), learners’ motivation and interest (t(78) = -.107, p < .05) and classroom management (t(78) = -.389, p = < .05). However, the obtained t-test value for the use of instructional resources (t(78) = 1.611, p < .05) was a high one though not significant. This is further supported by the difference in mean scores obtained for the use of instructional resources as recorded in Table 4.1 where the experimental group mean was (M = 33.45, SD = 14.16) against a control group mean score of (M = 28.58, SD = 12.86). These results clearly show that the experimental and the control groups of the study were not significantly different from each other on all the variables under study.

4.4 Post-test Classroom Observation Results

A post-test classroom observation was made to determine whether there were significant differences on all the dependent variables between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model. The means, standard deviations and independent t-tests were calculated for this purpose. Table 4.5 shows the post-test mean scores and standard deviations obtained per each dependent variable. For comparison purposes the scores for each dependent variable were converted into percentages.

Table 4.5 Post-test Means and Standard Deviations for the Experimental and Control
Groups per Dependent Variable and the Total Pre-service Teachers’ Score.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Learner’s ID</th>
<th>Mean</th>
<th>Gain Scores</th>
<th>SD</th>
<th>SD Error of the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional System Planning</td>
<td>Experimental(n=40)</td>
<td>68.98</td>
<td>7.75</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>60.02</td>
<td>8.96</td>
<td>7.28</td>
<td>1.15</td>
</tr>
<tr>
<td>Teacher-learner Interactions</td>
<td>Experimental(n=40)</td>
<td>66.99</td>
<td>10.81</td>
<td>1.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>61.53</td>
<td>5.46</td>
<td>9.02</td>
<td>1.43</td>
</tr>
<tr>
<td>Learners’ motivation and Interest</td>
<td>Experimental(n=40)</td>
<td>71.51</td>
<td>10.19</td>
<td>1.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>66.83</td>
<td>4.68</td>
<td>7.43</td>
<td>1.17</td>
</tr>
<tr>
<td>Use of Instructional Resources</td>
<td>Experimental(n=40)</td>
<td>53.47</td>
<td>15.26</td>
<td>2.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>44.62</td>
<td>8.85</td>
<td>12.85</td>
<td>2.03</td>
</tr>
<tr>
<td>Classroom Management and Control</td>
<td>Experimental(n=40)</td>
<td>67.95</td>
<td>11.25</td>
<td>1.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>65.53</td>
<td>2.42</td>
<td>7.33</td>
<td>1.16</td>
</tr>
<tr>
<td>Total Learner’s Score</td>
<td>Experimental(n=40)</td>
<td>68.25</td>
<td>8.50</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control(n=40)</td>
<td>61.80</td>
<td>6.45</td>
<td>6.37</td>
<td>1.01</td>
</tr>
</tbody>
</table>

From Table 4.5, it is clear that instructional system planning had the highest gain score of (8.96) with an experimental mean score of (M = 68.98, SD = 7.75) and a control group mean score of (M = 60.02, SD = 7.28) followed by use of instructional resources with a gain score of (8.85) and a mean score of (M = 53.47, SD = 15.26) and (M = 44.62, SD = 12.85) for the experimental and control groups respectively. The total pre-service teachers’ mean score had the third largest gain score of (6.45) with an experimental mean score of (M = 68.98, SD = 7.75) and a control group mean score of (M = 60.02, SD = 7.28). Classroom
management and control had the lowest gain score of (2.42) with an experimental group mean of (M = 67.95, SD = 11.25) and a control group mean of (M = 65.53, SD = 7.33).

Learners’ motivation and interest had the highest mean score for both groups with an experimental group mean score of (M = 71.51, SD = 10.19) and a control group mean score of (M = 66.83, SD = 7.43). Use of instructional resources had the largest standard deviations of (15.26) and (12.85) for the experimental and control groups respectively. The experimental group had total pre-service teachers’ standard deviations of (8.50) against control group standard deviations of (6.37). These results show that there was a substantial difference in the experimental and control groups mean scores on the total pre-service teachers’ score and each of the dependent variables under study except for classroom management and control.

4.5 Post-test Classroom Observation t-test Results

To determine whether the pre-test data obtained met the t-test assumption of homogeneity for the experimental and control groups, post-test stem and leaf plots for the total score for each group were plotted for this purpose. Tables 4.6 and 4.7 indicate the post-test stem and leaf plots for the experimental and control groups respectively.

Table 4.6 Post-test Stem and Leaf Plots for the Experimental Group

<table>
<thead>
<tr>
<th>Experimental Group Frequency</th>
<th>Stem &amp; Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 Extremes (=&lt;47)</td>
<td>3.00 5.013</td>
</tr>
<tr>
<td>1.00</td>
<td>5.8</td>
</tr>
<tr>
<td>6.00</td>
<td>6.111233</td>
</tr>
<tr>
<td>11.00</td>
<td>6.55667888999</td>
</tr>
<tr>
<td>10.00</td>
<td>7.0001123344</td>
</tr>
</tbody>
</table>

Table 4.7 Post-test Stem and Leaf Plots for the Control Group

<table>
<thead>
<tr>
<th>Experimental Group Frequency</th>
<th>Stem &amp; Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.00</td>
<td>7.556689</td>
</tr>
<tr>
<td>1.00</td>
<td>8.2</td>
</tr>
</tbody>
</table>
The experimental group post-test stem-and-leaf plots reveal that the experimental group pre-test scores distribution was normal, although there was one extreme value at the negative end of the scale. Table 4.7 shows pre-test stem-and-leaf plots for the control group. It is evident from table 4.7 that the control group post-test scores distribution was normal, although there was one extreme value at the positive end of the scale. This means that the post-test experimental and control groups data obtained satisfies the normal distribution assumption for the use of a t-test.

Table 4.7 Post-test Stem-and-Leaf Plots for the Control Group

<table>
<thead>
<tr>
<th>Experimental Group Frequency</th>
<th>Stem &amp; Leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>4.8</td>
</tr>
<tr>
<td>5.00</td>
<td>5.11224</td>
</tr>
<tr>
<td>7.00</td>
<td>5.7777889</td>
</tr>
<tr>
<td>17.00</td>
<td>6.00011111112223344</td>
</tr>
<tr>
<td>5.00</td>
<td>6.55668</td>
</tr>
<tr>
<td>3.00</td>
<td>7.003</td>
</tr>
<tr>
<td>1.00</td>
<td>7.5</td>
</tr>
<tr>
<td>1.00 Extremes</td>
<td>(&gt;=77)</td>
</tr>
<tr>
<td>Stem width: 10.00</td>
<td></td>
</tr>
<tr>
<td>Each leaf: 1 case(s)</td>
<td></td>
</tr>
</tbody>
</table>

A post-test independent t-test was calculated to find out whether the experimental and control groups were significantly different on all the dependent variables at the post-test. The post-test t-test results are as indicated in Table 4.8.

Table 4.8 Post-test Independent Sample t-Test Values

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Laverne’s Test for Equality of Variances</th>
<th>t-Test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Instructional System</td>
<td>.040</td>
<td>.842</td>
</tr>
<tr>
<td>Planning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher-learner Interactions</td>
<td>.705</td>
<td>.404</td>
</tr>
<tr>
<td>Learners’ motivation and Interest.</td>
<td>3.807</td>
<td>.055</td>
</tr>
<tr>
<td>Use of Instructional Resources</td>
<td>1.102</td>
<td>.297</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laverne’s Test for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of Variances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t-Test for Equality of Means</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2-tailed)
Table 4.8 reveals a non-significant Levene’s test for equality of variances for all the dependent variables except for classroom management (p= .001) since the significance levels obtained on all the dependent variables (Instructional system planning p = .842, teacher-learner interactions p = .404, learners’ motivation and interest p = .055, use of instructional resources p = .297 and the total pre-service teachers’ score p = .118) are higher than the set significance level of (p < .05). Therefore, we can conclude that the population variances of the two groups did not differ significantly for the mentioned variables and thus, the row labelled equal variances assumed was used. However, for classroom management which had a significant Levene’s test of equality of means, the row labelled equal variances not assumed or the Welch’s t-test was used.

The post-test was aimed at determining whether the experimental and the control groups differed significantly on all the dependent variables under study. The total pre-service teachers’ scores show a significant t-test for equality of means (t (78) = 3.836, p < .05).

Instructional system planning had an independent t-test value of t (78) = 5.327, p < .05) while teacher-learner classroom interactions recorded an independent t-test value of t (78) = 2.458, p < .05). Learners’ motivation and interest had an independent t-test value of (t (78) = 2.348, p < .05). Use of teaching resources showed t-test value of t(78) = 2.807, p < .05) while classroom management and planning had a t-test value of t(78) = 1.143, p < .05). These results reveal that all the independent t-test values obtained except for classroom management and control were significant. This means that the experimental group performed better than the control group on all the variables under study except on classroom management and planning which showed a non-significant t-test value. The t-test results also collaborate the descriptive
statistics obtained on all the variables under study as indicated in Table 4.5 where classroom management and planning had the lowest gain score and instructional system planning had the highest gain score.

4.6 Pre-service Teachers’ Perceptions and Experiences of Focus Discussion Groups as a Model of Context-Based Learning

In this study, the experimental group was issued with a questionnaire to identify experiences and perceptions of pre-service teachers on focus discussion groups as a model of context-based learning. Out of the 40 questionnaires issued, 37 of them were filled and returned. Analysis of questionnaire responses was done by use of frequency responses. Seven items made up of closed-ended and open-ended questions were used to find out this information. The frequencies for the closed-ended questions were calculated while the closed-ended responses were coded and put into main themes which were later used for calculation of frequencies and percentages for each specific theme.

4.6.1 Pre-Service Teachers’ Rating of the Focus Discussion Groups on Teaching and Classroom Practice

The experimental group pre-service teachers were asked to rate the focus discussion groups on teaching and classroom practice towards the development of their professional teaching career. Their responses are as shown in Table 4.9.

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 37</td>
<td>100%</td>
</tr>
<tr>
<td>Very useful</td>
<td>26</td>
<td>70.27</td>
</tr>
<tr>
<td>Useful</td>
<td>5</td>
<td>13.51</td>
</tr>
</tbody>
</table>

Table 4.9 Pre-Service teachers’ Rating of the Focus Discussion Groups on Teaching and Classroom Practice.
From table 4.9, it is evident that 70.27% of the experimental group pre-service teachers rated focus discussion groups on teaching and classroom practice as very useful in their professional teaching career development. Thirteen point five one percent (13.51%) rated it as useful, 8.11% thought that FDGs on teaching and classroom practice were somehow useful, 2.70% felt that they were not useful while 5.41% did not respond to the question. This indicates that majority of the pre-service teachers (78.38%) rated the focus discussion groups they participated in as useful in their teaching career professional development.

When asked to give their reasons for the rating of the FDGs, their responses are as presented in Table 4.10.

Table 4.10 Pre-service Teachers’ Reasons for the Rating of Focus Discussion Group on Teaching and Classroom Practice

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased my knowledge and skills in classroom control and management.</td>
<td>5</td>
<td>13.51%</td>
</tr>
<tr>
<td>Made me more creative in the production and use of teaching and learning resources.</td>
<td>15</td>
<td>40.54%</td>
</tr>
<tr>
<td>Helped me involve learners more in the lesson.</td>
<td>17</td>
<td>45.95%</td>
</tr>
</tbody>
</table>

N= 37
• Enhanced my knowledge and skills in motivation and creation of interest in my lesson. 26 70.27%
• No response. 3 8.11%

Table 4.10 indicates that 70.27% of the experimental group pre-service teachers felt that FDGs enhanced their knowledge and skills in motivation and creation of interest in their lessons. Forty five point nine five percent (45.95 %) indicated that FDGs helped them involve their learners more in the lesson. Forty point five four percent (40.54%) were of the opinion that FDGs made them more creative in the production and use of teaching and learning resources. Thirteen point five one (13.51%) of the experimental group pre-service teachers felt that FDGs on teaching and classroom practice increased their knowledge and skills in classroom control and management while 8.11% of the pre-service teachers did not respond to this item. This analysis reveals that most of the experimental group pre-service teachers found the FDGs on teaching and classroom practice useful in their teaching professional development.

4.6.2 Pre-Service Teachers’ Rating of their Participation in the Focus Discussion Groups on Teaching and Classroom Practice

Pre-service teachers were asked to rate their participation in the FDGs. Their responses are as shown in Table 4.11.

Table 4.11 Pre-Service Teachers’ Rating of their Participation in Focus Discussion Groups.

<table>
<thead>
<tr>
<th>Ratings</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 37</td>
<td>100%</td>
</tr>
<tr>
<td>Very Active</td>
<td>19</td>
<td>51.35</td>
</tr>
<tr>
<td>Active</td>
<td>10</td>
<td>27.03</td>
</tr>
<tr>
<td>Moderately Active</td>
<td>4</td>
<td>10.81</td>
</tr>
</tbody>
</table>
Table 4.11 reveals that 51.35% of the experimental group pre-service teachers were very active during the FDGs, 27.03% rated their participation as active, and 10.81% indicated that their participation was moderately active while 5.40% noted that they were not active. Out of the six who indicated that their participation in the FDGs was either moderately active or not active, three (50%) identified lack of enough time for group activities and few FDG meetings as their reasons for lack of effective participation. Two (33.33%) indicated that the focus discussion groups were rather large and thus could not give everybody an equal chance to participate. One (16.67%) did not respond to this item. This analysis points out that majority (78.38%) of the pre-service teachers actively participated in the focus discussion groups. When asked how the focus discussion groups can be improved, their responses are as indicated in Table 4.12.

Table 4.12 Pre-Service Teachers’ Opinions on How the Focus Discussion Groups can be Improved

<table>
<thead>
<tr>
<th>Ways of Improving Focus Discussion Groups</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N= 37</td>
<td></td>
</tr>
<tr>
<td>• Have focus discussion groups with fewer members</td>
<td>4</td>
<td>10.81%</td>
</tr>
<tr>
<td>• Need more discussion time for focus discussion group per session</td>
<td>12</td>
<td>32.43%</td>
</tr>
<tr>
<td>• Require more frequent focus discussion group meetings</td>
<td>15</td>
<td>40.54%</td>
</tr>
<tr>
<td>• Give all members equal chances</td>
<td>2</td>
<td>5.40%</td>
</tr>
</tbody>
</table>
From Table 4.12, it is evident that 40.54% of the experimental group pre-service teachers required frequent meetings as opposed to the weekly meetings employed in this study. Thirty two point four three percent (32.43%) identified the need for more discussion time per session as a way of improving focus discussion group meetings while 5.40% felt that there was need to give every group member an equal chance to participate in the group. These findings indicate that pre-service teachers had positive experiences and perceptions of the focus discussion groups as a model of context-based learning.

### 4.7 Pre-Service Teachers’ Reflective Practice Diary Recordings

Each of the 40 experimental group pre-service teachers was issued with a reflective diary every week where they were to record their reflections on their daily instructional experiences. The diary was then collected at the end of the week after the focus discussion group meetings. Reflective diaries were recorded for a total of 7 weeks spread over the first two teaching practice sessions of about one month each. The numbers of expected responses based on the diaries returned are as shown in Table 4.13. Out of 40 experimental group pre-service teachers 31 returned all the diaries. Two (2) pre-service teachers brought back diaries for 6 weeks, 4 of them returned 3 diaries while diaries for 2 weeks were collected from 3 pre-service teachers.

<table>
<thead>
<tr>
<th>Number of Pre-service Teachers</th>
<th>Number of Weeks</th>
<th>Number of responses per Week</th>
<th>Total Responses</th>
<th>Expected per question</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>7</td>
<td>5</td>
<td>1085</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>5</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Total Responses</td>
<td></td>
<td></td>
<td>1235</td>
<td></td>
</tr>
</tbody>
</table>
The total responses for each question were varied from question to question since some of the pre-service teachers did not respond to some questions. The number of exact responses per question is as indicated in Table 4.14.

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1226</td>
<td>99.27%</td>
</tr>
<tr>
<td>2</td>
<td>1153</td>
<td>93.36%</td>
</tr>
<tr>
<td>3</td>
<td>1192</td>
<td>96.52%</td>
</tr>
</tbody>
</table>

From Table 4.14, it is clear that question number one got 1226 responses (99.27%), question number two had 1153 (93.36%) responses and question number three attracted 1192 (96.52%) responses over the seven weeks period. Analysis of the reflective practice diaries is based on the responses per each question. As noted earlier, the responses by the pre-service teachers on each of the questions were analyzed and put into themes.

### 4.7.1 Pre-Service Teachers’ Evaluations of their Teaching based on the Reflective Teaching Diaries

During their practice, the experimental group pre-service teachers were expected to record their evaluation of the lessons they had taught each day in terms of what they felt was done well and what was not done well and the reasons for their evaluations in each case. In addition, they were expected to suggest ways in which they thought each of their lessons could be improved. All the evaluations were aimed at serving as the content of discussions during the focus discussion groups. However, they were analyzed in this study in order to find out the experiences of pre-service teachers during their teaching practice as part of the supplementary findings.
Experimental group pre-service teachers were asked to indicate what they performed well during the teaching of their lessons each day for seven weeks. Their responses were as shown in Table 4.15.

Table 4.15 Experimental Group Pre-Service Teachers’ Evaluation of the Well Performed Areas in their Teaching.

<table>
<thead>
<tr>
<th>Well performed areas during the lessons.</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 1235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pupils were actively involved in the lesson.</td>
<td>997</td>
<td>80.73%</td>
</tr>
<tr>
<td>Learners were motivated and interested in the lesson.</td>
<td>851</td>
<td>68.91%</td>
</tr>
<tr>
<td>The lesson was presented logically and systematically.</td>
<td>801</td>
<td>64.86%</td>
</tr>
<tr>
<td>The lesson objectives were achieved.</td>
<td>1016</td>
<td>82.27%</td>
</tr>
<tr>
<td>The teacher-learner interactions were good.</td>
<td>252</td>
<td>20.40%</td>
</tr>
<tr>
<td>No response.</td>
<td>9</td>
<td>0.73%</td>
</tr>
</tbody>
</table>

Table 4.15 points out that in 82.27% of the cases, the experimental pre-service teachers felt that their lessons objectives were achieved. In 80.73% of the responses, pre-service teachers indicated that their pupils were actively involved in their lessons. Sixty eight point nine one percent (68.91%) of the pre-service teachers’ responses showed that learners were motivated and interested in their lessons. In 64.86% of the responses, pre-service teachers pointed out that they presented their lessons logically and systematically, 20.40% of pre-service teachers’ responses indicated that their interactions with their learners were good while there were no responses in 0.73% of the cases. When asked
why they thought that the areas they pointed out were performed well during their lessons, their responses were as indicated in Table 4.16.

Table 4.16 Pre-service Teachers’ Reasons for the Good Performance in Their Lessons

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 1235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Had prepared well for the lesson.</td>
<td>1003</td>
<td>81.21%</td>
</tr>
<tr>
<td>• I provided appropriate and interesting examples and illustrations to the pupils.</td>
<td>851</td>
<td>68.91%</td>
</tr>
<tr>
<td>• Reinforced pupils Responses.</td>
<td>517</td>
<td>41.86%</td>
</tr>
<tr>
<td>• Provided stimulus variation.</td>
<td>411</td>
<td>33.28%</td>
</tr>
<tr>
<td>• No Response</td>
<td>9</td>
<td>0.73%</td>
</tr>
</tbody>
</table>

From Table 4.16, it is evident that, in 81.21% of the cases, pre-service teachers identified good preparation of their lessons as the reason for good performance in the areas they had identified in Table 4.15. Sixty eight point nine one percent (68.91%) of the responses indicated that pre-service teachers provided appropriate and interesting examples and illustrations to their learners. Forty one point eight six percent (41.86%) of the responses showed that pre-service teachers reinforced their pupils’ responses in class while 33.28% of the responses pointed out that, pre-service teachers provided stimulus variation in their lessons. In 0.73 % of the cases, there were no responses.

When asked to identify the poorly performed areas in their lessons, their responses were as noted in Table 4.17.

Table 4.17: Pre-Service Teachers’ Evaluation of the Poorly Performed areas in their Teaching
Sixty eight point two six percent (68.26%) of the pre-service teachers’ responses to the poorly performed areas in their lessons indicated that they did not effectively control their classes. In 58.22% of the responses, inadequate utilization of teaching and learning resources was cited as one of the problems in the pre-service teachers’ lessons. Lack of adequate resources followed with 56.92% of the responses. Non-utilization of learners’ experiences had 26.88% of the responses while 9.47% of the responses showed that teacher-learner interactions were not good. In 9.42% of the cases, pre-service teachers did not respond to the question. This shows that lack of effective classroom control was a major challenge to the pre-service teachers followed by inadequate teaching and learning resources and inadequate utilization of the teaching and learning resources. Pre-service teachers cited the issues listed in Table 4.18 as their reasons for not doing well in the areas pointed out in Table 4.17.
Table 4.18 Pre-service Teachers’ Reasons for Poor Performance during their Lessons

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 1235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ineffective time management.</td>
<td>507</td>
<td>41.05%</td>
</tr>
<tr>
<td>• Non-utilization of locally available resources.</td>
<td>722</td>
<td>58.46%</td>
</tr>
<tr>
<td>• Inadequate preparation of the lesson.</td>
<td>172</td>
<td>13.93%</td>
</tr>
<tr>
<td>• Did not relate the topic to learners’ experiences.</td>
<td>319</td>
<td>25.83%</td>
</tr>
<tr>
<td>• Lack of effective motivation and creation of interest in learners.</td>
<td>413</td>
<td>33.44%</td>
</tr>
<tr>
<td>• Lack of appropriate learner activities.</td>
<td>143</td>
<td>11.58%</td>
</tr>
<tr>
<td>• Unclear objectives.</td>
<td>57</td>
<td>4.62%</td>
</tr>
<tr>
<td>• Learners did not understand the concepts.</td>
<td>97</td>
<td>7.85%</td>
</tr>
<tr>
<td>• No response.</td>
<td>115</td>
<td>9.31%</td>
</tr>
</tbody>
</table>

As pointed out in Table 4.18, non-utilization of locally available teaching and learning resources was identified by pre-service teachers as the major reason for poor performance in their teaching by attracting 58.46% of the responses. Ineffective time management came second with 41.05% of the responses. Lack of effective motivation and creation of interest had 33.44% of the responses. Twenty five point eight three percent (25.83%) of the responses indicated that pre-service teachers did not relate the topic to learners’ experiences. Thirteen point nine three percent (13.93%) of the responses showed that pre-service teachers
did not effectively prepare for their lessons while 11.58% of the responses pointed out that the lessons lacked appropriate learner activities. Seven point eight five percent (7.85%) of the pre-service teachers’ responses indicated that pupils did not understand the concepts taught. Unclear objectives had the lowest responses (4.62%) while there were no responses in 9.31% of the cases.

These findings point out that majority of the pre-service teachers had major challenges in the design, production and utilization of teaching and learning resources as collaborated by what is cited in Table 4.18. Ineffective time management was also noted as a major challenge and perhaps that is why some pre-service teachers’ lessons were evaluated as not logical and systematic as noted in Table 4.18. In addition, some pre-service teachers had problems with motivation and creation of interest in their lessons, did not relate the topic to learners’ experiences and had no appropriate learner activities.

In addition, to identify the well and poorly performed areas in their teaching, pre-service teachers were asked to mention ways in which they could improve their teaching knowledge and skills. Fifty seven point three percent (57.33%) of their responses cited the need for mastering the content of instruction before the lesson. Fifty three point two zero percent (53.20%) felt that they needed to be more creative and innovative in the production and utilization of instructional resources through use of available resources while (68.18%) were of the opinion that they needed to create interest and motivate their learners through use of appropriate examples and illustrations related to pupils’ experiences and more involvement of the pupils in the lessons. Forty eight point eight three percent (48.83%) of the responses indicated that pre-service teachers needed to prepare adequately for the lesson.

### 4.8 Discussion

The main objective of this study was to establish whether the context-based learning model through the use of focus discussion groups improves pre-service teachers, teaching effectiveness as compared to the traditional content-based pedagogical model. The pre-test descriptive statistics used show minimal
differences between the experimental and control groups in all the variables under study before treatment. However, it was noted that, instructional system planning had a greater difference between the two groups than all the other variables. The stem and leaf plots for both the experimental and control groups showed that the two groups’ scores had near normal distribution. Therefore, the scores met one of the requirements for a t-test analysis.

From the t-test pre-test results presented, it is evident that the experimental and the control groups were not significantly different from each other on all the variables under study before treatment. This means that the two groups did not have significant differences that would affect the results of this study. Fraenkel and Wallen (2009) point out that it is critical to determine whether there is a significant difference between the experimental and control groups before treatment where the researcher uses independent groups. The two groups were stratified randomly sampled from the first year intake from Meru and Egoji teachers training colleges respectively. The experimental group received treatment in form of focus discussion groups and reflective practice during their teaching practice over their two years training period. After the treatment, the experimental and control groups were post-tested and the findings obtained showed that there was a significant difference in performance between the experimental group and the control group recorded in tables 4.5 and 4.8.

It can be noted that instructional system planning had the highest gain scores between the experimental and control groups. Use of instructional resources had the second highest gain scores, the largest standard deviations and the lowest mean score for each group as recorded in Table 4.5. This is similar to what was obtained after the pre-test. It is also important to observe that use of instructional resources was the second main variable noted by pre-service teachers as the area they did not do well in during their classroom teaching after lack of effective classroom control as noted in Table 4.17. These findings clearly illustrate a correlation between classroom observation and the reflective practice diary findings and subsequent focus discussion group discussions on the issue of inadequate or non-utilization of instructional resources. Indeed, as indicated by Pre-service teachers during the focus discussion groups, they rarely designed and
produced any resources apart from wall charts, the science corner and the shop model as a result of the way they have been trained. The words of one learner in her reflective diary can further explain this situation.

We have always been told by our tutors to produce charts as teaching aids which are marked and approved before the start of any teaching practice. Tutors will be on your case if they find that you don’t have a chart, or your science corner and the model shop are not well prepared even when you do not need them in your lesson. To me, unless I have a chart in my lessons, I don’t feel as if I have any teaching aids. By the way they do not use any teaching aids during their lessons. Even after being convinced in my discussion group that I can produce and use other teaching aids, I still fear my tutors’ reactions. (Hellen, Group 4).

This comment resonates with the observations of Feiman-Nemser (2001) in which she argues that, too often teacher educators are a hindrance to teacher education reforms. They do not practise what they preach and in most cases, they do not provide pre-service teachers with an opportunity to creatively and effectively practise their profession. Their classes are too abstract to challenge deeply held beliefs or too superficial to enable deep understanding. This observation is also supported by the UNESCO (2005) which points out that, available data show that large proportions of primary school teachers lack adequate training and content knowledge especially in developing countries due to inadequacies in their training. Non-utilization or inadequate utilization of instructional resources is a major problem in the teaching and learning process considering that availability and use of instructional resources is a primary and fundamental component of effective teaching and learning. Research has shown that learners learn better when concepts are taught through the use of concrete instructional resources. Design and production of instructional resources require pre-service teachers’ creativity that can be developed and enhanced during their training. (Schwille, Dembele & Schubert, 2007).

Lack of effective classroom control and management was cited by pre-service teachers as a major area they did not perform well in their classroom teaching. It is interesting to note that the independent t-test carried
out showed that, there was no significant difference between the experimental and control groups on classroom management and control as noted in Table 4.8. In addition, it is ironical that, both groups had above average mean scores in their classroom observation during the post-test on this variable even though the experimental group pre-service teachers noted it as a major area they did not do well in their reflective practice diaries.

To achieve the first objective and to test the hypotheses of the study on each of the dependent variables an independent t-test for equality of means was used for each variable.

4.8.1 Teacher-learner Interactions and Training Model

The first study hypothesis stated that, there was no significant difference in teacher-learner classroom interactions between pre-service teachers trained through context-based learning model and those trained through the traditional learning model. Pre-service teachers’ performance on this variable was measured against the effect of context-based learning model and the traditional learning model for the experimental and control groups respectively. The independent t-test for equality of means obtained on teacher-learner classroom interactions as recorded in Table 4.8 was significant and therefore, $H_{01}$ was rejected. This collaborates with the difference in the mean scores of the experimental and control groups on this variable as recorded in Table 4.5 in which the experimental group had a higher mean score than the control group. It is thus evident that, context-based learning as a pre-service training model improved teacher-learner interactions as compared to the traditional model. These results are consistent with the findings of Kiggins (2007), who points out that the context-based learning model helps teachers to engage their learners by motivating them to actively participate in their lessons through the development of the teacher’s negotiation, communication and collaboration skills.

4.8.2 Learners’ Motivation, Interest and Training Model
The second hypothesis stated that, there was no significant difference in teacher’s motivation of learners between pre-service teachers trained through context-based learning model and those trained through the traditional learning model. The independent t-test value for equality of means calculated on this variable showed that it was significant and thus, $H_{02}$ was rejected. The mean scores obtained on this variable as recorded in Table 4.5 confirm these findings. The experimental group had a higher mean score than the control group. These results showed that, the context-based learning model improved pre-service teachers’ motivation of learners and interest. As noted by Tiwari, Wong and Lai (2005), the context-based learning model increases pre-service teachers to learn and encourages them to increasingly motivate their learners.

### 4.8.3 Instructional System Planning and Training Model

The third hypothesis stated that there was no significant difference in instructional system planning between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model. Table 4.5 shows that, the mean score obtained for the experimental group on instructional system planning was higher than the control group mean score. Further analysis of the data revealed a significant independent t-test value for equality of means as noted in Table 4.8. Therefore, $H_{03}$ was rejected. These findings proved that context-based learning as a model of training teachers improved their instructional system planning as compared to the traditional learning model. As argued by Carpenter and Blance (2007), a learning community and the context-responsive professional learning experiences help the pre-service teachers to be independent, creative, adaptive to change and effective in their planning. Indeed, as noted in the experimental group reflective diary recordings indicated in table 4.16, pre-service teachers indicated that they had prepared well for the lessons and only a few of them felt that they were inadequately prepared for their lessons as can be observed from table 4.18.
4.8.4 Use of Instructional Resources and Training Model

A significant independent t-test for equality of means was obtained on the use of instructional resources as indicated in Table 4.8. The fourth hypothesis which stated that, there was no significant difference on the use of instructional resources between teachers trained through the context-based learning model and those trained through the traditional learning model was thus rejected. This revealed that context-based learning as a model of training pre-service teachers improved their use of instructional resources in their teaching. Use of instructional resources had the lowest mean scores for both groups during the pre-test and post-test. The words of Hellen from Group 4 noted earlier clearly show why use of instructional resources had the lowest means for both groups and demonstrate the lack of production of instructional resources and subsequent inadequate utilization of the same as noted in tables 4.17 and 4.18. Wanzare (2002) in synthesizing the works of various researchers in Kenya cited inadequate teaching resources as one of the deficiencies in pre-service teacher training which results in pre-service teachers’ little knowledge and skills in production and utilization of instructional resources in their classrooms. Schwille, Dembele and Schubert (2007) and UNESCO (2005) argue that availability and use of instructional resources is a primary and fundamental component of effective teaching and learning and thus lack of or inadequate utilization of instructional resources is a major problem. Pre-service teachers need to be provided with opportunities to design and produce instructional resources during their training. Kennedy (1999) points out that, reformers in teacher education cannot improve teachers’ practices by changing the caliber of those who enter the profession or by increasing the credits teachers take but by the way teachers interpret particular situations and decide how to respond to them. Production of instructional resources and use of them is mainly based on a teacher’s interpretation of the learning environment and how to effectively teach in that environment. Community learning and reflective practice provide such opportunities for teacher educators.

4.8.5 Classroom Management, Control and Training Model
The fifth hypothesis stated that, there was no significant difference in teachers’ classroom management and control between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model. Table 4.5 reveals that the experimental group mean score was slightly higher than the control group mean score. However, as indicated in Table 4.8 the independent t-test value for equality of means obtained on this variable was not significant and therefore, $H_{05}$ was accepted. This indicated that context-based learning as a model of training teachers did not have a significant effect on pre-service teachers’ classroom control and management. As noted earlier, it is ironical that classroom management and control was cited by pre-service teachers as the main area they had difficulties in during their classroom teaching in their reflective practice diaries yet it had an above average mean score for both the experimental and control groups in the classroom observation. Studies done by Kiggins (1999), Tiwari, Wong and Lai (2005), and Choi and Johnson (2005) point out that the context-based learning model provides an opportunity for teachers to be active learners and help them to relate theory to practice and thereby improve their overall effectiveness. These observations are contrary to the results of this study with regard to the variable on classroom management and control which indicated that there was significant difference between the experimental and control groups on the said variable.

The findings from this study indicated that there were significant differences between the experimental and the control group in instructional system planning, teacher-learner interactions, learners’ motivation and interest, use of instructional resources and the overall total learners’ score on classroom teaching. However, the two groups showed no significant difference in classroom management and control. Therefore, it is correct to conclude that context-based learning in form of focus discussion groups as a model of pre-service teachers’ training improves their classroom teaching. These results are consistent with the arguments of Jonassen, Peck, and Wilson (1999), (Cheany & Ingebritsen, 2005), Tiwari, Wong and Lai (2005), and Choi and Johnson (2005) who point out that context-based learning as a model of training teachers treats teachers as active learners who are engaged in concrete tasks of teaching, assessment, observation and reflection within the school context. This approach helps teachers to connect their professional training to the actual experiences in the classrooms and schools through collaborative and reflective learning.
The results are also in agreement with the findings of Kiggins (2007) in which she found out that the context-based learning model motivates pre-service teachers to “learn to learn” and contextualizes their professional learning, by linking abstract theory as closely as possible to contexts and settings to which it is applied. Similarly, Kang’ethe, Nafukho and Mutema (2002) comment that context-based learning helps learners to link up the theory with the contexts in which they will operate in.

To accomplish the second objective of this study which aimed at identifying experiences and perceptions of pre-service teachers on focus discussion groups as a model of context-based learning, questionnaires were issued to the experimental group after treatment. From the findings obtained as indicated in Table 4.9, majority of the pre-service teachers found focus discussion groups useful in their professional development. They provided various reasons for their positive rating of the focus discussion groups which include; enhancing their knowledge and skills in motivation and creation of interest in their lessons, helping them involve their learners more in the classroom, making them more creative in the production and use of teaching and learning resources and increasing their knowledge and skills in classroom control and management. These results in addition to the pre-service teachers’ feedback gave strong indicators that focus discussion groups were useful to pre-service teachers and gave them an opportunity to independently and individually reflect on their classroom teaching experiences and collaboratively seek solutions to classroom problems they faced. However, a number of pre-service teachers felt that the time for group activities was short. The following pre-service teachers’ excerpts further provide some insights on the pre-service teachers’ focus discussion group experiences and perceptions.

At first I did not think the discussion group was necessary. The work was too much to bear. I even came in late during the group discussions but I later realized the group members were talking about the same problems I had experienced in my classroom teaching. This gave me hope that I was not alone and motivated me to participate in the group discussion. I finally found out that sharing with my colleagues helped me learn how to solve my classroom problems. (Beth, Group 2).
I think the benefit of a group discussion is that you are not focused on the outcome like in a classroom situation. You are more concerned with seeking solutions to a problem. You are able to connect what you were taught in the classroom with what is happening in schools. I think I learnt more during the discussions than when I attended lectures because the lectures were mainly focused on exams unlike the discussion groups. However, the sessions were rather short. (Odindo, group 2).

When I joined college I was not interested in teaching at all. It was not my choice, but my discussions with my fellow students and the reflection on what I do as a teacher in addition to the classroom experiences with pupils made me see teaching in a different way. I am now a little bit interested in it. I wish we had more discussion time. (Lagat, Group 3).

I felt involved in my learning. I believe this was the main advantage of the discussion groups and the reflections I made. Teaching practice was good though quite involving. (Maluki, Group 1).

The main observations that emerged from these pre-service teachers’ excerpts indicate that pre-service teachers valued learning from each other and reflecting on their teaching. However, the focus discussion group meetings needed more time and more control as noted by the following pre-service teachers’ excerpts.

The discussions did not help me much. They were short and moreover what matters is (sic) the grades awarded by our tutors and the external examiner. (Maureen, Group 1).

I did not feel like I was in control of my teaching practice. It always felt like I was being judged by everybody and I had to report my experiences. I was also not given enough time to express my opinions. Some of my colleagues were dominating the discussions and I felt left out. (Wanyama, Group 1).
Nevertheless, it is clear that this source of learning was operating though it needed more time and more control in some groups as indicated in the pre-service teachers’ excerpts. Reflective practice and cooperative learning were the two main sources of learning in the context-based learning model. Their comments are in line with the observation made by Kiggins (2007), (Cheany & Ingebritsen, 2005), Hammond (2006), Tiwari, Wong and Lai (2005), and Choi and Johnson (2005) in which they argue that the 21st century teacher requires not only to reflect on his/her teaching but also work in collaboration with other professional colleagues in order to solve classroom problems he/she encounters to meet the needs of the contemporary society that requires more knowledge and skills to survive and succeed. Through reflection and cooperative learning, the pre-service teacher is able to relate course-work and the practical work. The community of learners also provide support and encouragement to each pre-service teacher.

Hammond (2006) further points out that on a daily basis, the 21st century teachers are confronted with complex decisions that rely on many different kinds of knowledge and judgement. To make good decisions, the teacher must be aware of the context in which learning is to take place and accommodate the social, environmental and the psychological conditions in his/her teaching taking into consideration the demands of the fast changing world. This is only possible if the teacher has acquired knowledge and skills in relating teaching and learning to the classroom context. It is also interesting to note that a majority of the pre-service teachers indicated that they were active during the focus discussion group meetings as noted in Table 4.11. This clearly shows their enthusiasm in participating in the focus discussion groups and further supports their positive experiences and perceptions of the focus discussion groups.

Reflective practice diaries revealed the areas pre-service teachers felt they did well in their classroom teaching and those they thought they did not do well. From the analysis of the reflective diaries, it is evident that most of the pre-service teachers felt that they achieved their lesson objectives and actively involved their learners in their lessons. However, they cited lack of effective classroom control, lack of adequate teaching and learning resources and inadequate utilization of teaching and learning resources as
the main issues that were not good in their lessons. These findings point out that, pre-service teachers were actively reflecting on their classroom teaching. The findings also illustrate this source of learning was operating well. Issues indicated in the reflective diaries were the main points of discussion during the focus discussion groups. The following pre-service teachers’ quotes during the focus discussion group meetings and in their answers to the questionnaire on their perceptions on the focus discussion groups illustrate their experiences on the reflective practice and point to the fact that pre-service teachers were engaged in reflections of their teaching experiences.

I did not think teachers do anything beyond, planning for teaching, teaching in class and marking students work. The issue of recording what I think about my lesson was new to me and confusing but I found it useful in making improvements on my next lessons. (Chege, Group 3).

I think all teachers should be asked to record their reflections on their teaching. I found myself thinking of what I had recorded in my diary over and over again even at night. Though the work was too much, I think this helped me seek solutions to the problems I encountered during my lessons and in making my lessons better. (Peter, Group 2).

The third objective of this study was to formulate a suitable pre-service primary teacher training model for Kenya. In order to accomplish this objective, it was important to consider the findings of this study and relate the new model to other existing models. Various teacher education models have emerged in many developing countries as a basis for meeting their teacher education needs. According to Tulasiewicz and Adams (1995) and the Eurydice (2002), teacher education models are mainly divided into two categories based on the organization of teacher education in a specific country. These are the concurrent and consecutive models. The most common in many countries is the concurrent model. The concurrent model entails the integration of all teacher education components namely; the teaching subject content, pedagogical content, micro-teaching and teaching practice. In the consecutive model, the subject content is taught first followed by the pedagogical content and later teaching practice. Within these broad teachers
education models there are three main variations depending on the point of focus and the need for a specific country. According to Pungur (2007) the three models include:

(a) Pedagogical teacher education models. The main focus of these models is the instructional roles of teachers and their personal development. Pedagogical teacher education models that emphasize competency and behavioural approaches are the most common in Africa and East Asia as indicated by Thomas (1997). These models aim at understanding the processes of teaching and learning. They include; the traditional craft or content-based model, discovery learning teacher education model, behavioural control and or modification teacher education models, ethnographic-sociolinguistic teacher education model and rational approach teacher education model.

(b) Organizational teacher education models. These models focus on how teacher preparation, induction and in-service education are organized. They are mainly aimed at meeting teacher demand and supply at a particular time within a country. There are three main types of organizational teacher education models, namely:

i. College or faculty-based teacher education model also referred to as the conventional model. This has been the method of teacher training in many countries for over a century, school-based teacher educational models and the alternative needs response teacher education model. In the college or faculty-based teacher education model also referred to as the conventional, the trainee spends the greater part of his/her time learning to become a teacher at the college.

ii. School-based teacher educational models in which decisions about the organization of the curriculum, structure and the nature of the teaching practice, payment of staff involved in the training and assessment are shared between the school and the training institution. The model has been used in England and Wales and also in Uganda and Kenya though in a small-scale.

iii. Mentoring teacher education models. The variations in this model include the Collaborative Schools Model (CSM), the Professional Development School
Model (PDS) and the Hong Kong Model. The Collaborative Schools Model is a variation of the school-based model and involves a mentor who provides support to the pre-service teacher in developing classroom management skills, lesson planning, gaining familiarity with teaching resources and reflective practice, a school coordinator who identifies qualified mentor teachers and provides support to mentors and pre-service teachers and a university or college facilitator who plays the role of a mediator and enables open communication between all parties in addition to ensuring that all components of the school-based experience model function as expected. The model has been used in Canada.

The Professional Development School Model (PDS) involves attaching pre-service teachers in schools early in their training and linking them with exceptional cooperating teachers in those schools. In this model, there is a shared supervision between the university supervisors and cooperating teachers with the latter taking on greater responsibility in observation and assessment. The Hong Kong model seeks to encourage a professional learning community that includes school mentors, school principal, practicum coordinator and university supervisors through provision of a framework for a school-university partnership.

(c) Research teacher education models which focus on generation of new ideas for better quality teaching, training and education. Research models of teacher education target at a revitalized approach to teacher training with an emphasis on quality.

As noted earlier, the primary teacher education in Kenya and many other developing countries is based on the concurrent content-based pedagogical model or what is referred to as the transmission-oriented teacher education model in which all the components of teacher education are integrated. The model is teacher-
centred and has little room for learner participation, innovation and creativity. It consists of three main elements which are:

a) Classroom learning in subject area content and professional courses in education and teaching methods

b) Micro-Teaching
c) Teaching practice

These components interact as shown in figure 1.1. This model of teacher education has been criticized for being more content-centred and teacher-centred. The main disadvantage of this model is that learners are not adequately involved in their learning and thus, they leave college feeling inadequately prepared for classroom teaching. In addition, it presents a fragmented view of learning that is often not context-based leading to little or no connection between theory and practice to a trainee teacher and lack of mechanisms to help teachers creatively seek solutions to teaching professional problems in their specific day-day teaching environments. (Shiundu & Mohammed, 2005; Armour & Booth, 1999; Kiggins, 1999 and Bogonko, 1992; Hoban (1999), Carter (2000), Feiman-Nemser (2001) and Hoban, (2005); KESSP, (2005).

Farrell (2002) argues that there has been little progress in developing innovative teacher education programmes in Africa. The KESSP (2005) points out that, to improve teacher education in Kenya, innovative teacher training techniques should be encouraged. Therefore, based on the findings of this study and in line with the government of Kenya recommendations as contained in the Republic of Kenya (1999), MoEST (2003), Sessional Paper No. 1 of 2005 and the KESSP (2005), the following new primary teacher education model for Kenya is formulated and recommended. The primary teacher education model recommended is an integration of four components namely; classroom learning and micro-teaching, cooperative learning, school-based learning and reflective practice. These components were used as the treatment for the experimental group in form of a focus discussion groups.
The results of this study showed that pre-service teachers taught using the focus discussion groups performed better in classroom practice in four areas namely; instructional system planning, learner-teacher interactions, learners’ motivation and interest, use of instructional resources and the overall total learner’s score on classroom teaching. However, there was no significant difference between the experimental and control groups with regard to classroom control and management. In addition, pre-service teachers’ responses to the questionnaire and their reflective diary recording further provided evidence that the cooperative learning, the school-based and the reflective practice components were operating well. The model formulated has both pedagogical and research teacher education model components since its main focus is the instructional roles of pre-service teachers and their personal development as well as generating new ideas for better quality teacher education.

Based on pre-service teachers’ perceptions of the focus discussion groups and the findings from the t-test conducted, it is evident that the context-based learning model promotes learner-centred learning through problem-solving, learner independent learning, group discussion and sharing. In addition, it improves learners’ decision-making skills, active participation in their learning and stimulates their curiosity in seeking solutions to the professional problems they face. The model also helps pre-service teachers to relate teacher education theory to practice as well as basing their teaching on the context in which they teach. This is in contrast to the current primary teacher education model in Kenya which is based on the concurrent content-based pedagogical model.

This model as noted by GoK, (2005), Shiundu & Mohammed, 2005; Armour & Booth, 1999; Kiggins, 1999 and Bogonko, 1992; Hoban (1999), Carter (2000), Feiman-Nemser (2001) and Hoban, (2005) has several disadvantages which include inadequate involvement of learners in their learning thus, leaving college feeling inadequately prepared for classroom teaching. It also presents a fragmented view of learning that is often not context – based leading to little or no connection between theory and practice to a trainee teacher and does not help teachers creatively seek solutions to teaching professional problems in their teaching. The new model recommended based on the findings of this study is as illustrated in fig. 4.1.
Fig. 4.1 Context-Based Primary Teacher Education Model for Kenya.

Training a 21st Century Primary School Teacher

Fig. 4.1 shows the new recommended primary teacher education model for Kenya based on the findings of this study. It focuses on the effective model of training a 21st century primary school teacher. The fundamental purpose of this model is to help a pre-service teacher understand and appreciate the complexities of the teaching profession and thus, enable him/her acquire requisite knowledge and skills and challenge him/her to create and maintain a classroom setting that supports effective learning. This model provides four fundamental sources of learning for pre-service teachers. The four components contribute to effective training of a primary school teacher who is capable of engaging in concrete tasks of teaching, assessment, observation and reflection. They include:

Classroom learning and micro-teaching (CLM)
This entails the teaching of educational professional courses such as Philosophy of education commonly referred to as Professional studies and teaching subjects to pre-service teachers. The teaching subjects are Language Education, Mathematics, Science Education, Social Studies and CRE/IRE. Micro-teaching involves short practical teaching sessions (normally between 7-10 minutes long) through the use of fellow pre-service teachers as primary school learners under the supervision of the tutor. The pre-service teacher is then evaluated by colleagues and the tutor after each micro-teaching lesson.

This source is the first component in pre-service teacher education and should provide a foundation on teaching and classroom practice to the pre-service teacher on which later learning is built. However, the source should provide more room for pre-service teachers to actively participate in their learning as opposed to the current situation where it is more tutor-centred and exam-oriented as indicted by pre-service teachers in the questionnaires and the excerpts. The source is interlinked with school-based learning and cooperative learning. Pre-service teachers are recommended to start with classroom learning after which they are attached to primary schools for school-based learning and later pre-service teachers go back to college for classroom learning. This process should be repeated three times (based on the current teaching practice schedule) over the two years training period. Currently, pre-service primary teachers are attached to primary schools three times during their training period. This source of learning is also linked to cooperative learning since pre-service teachers are expected to be provided opportunities for cooperative learning through discussion groups in both classroom learning and during micro-teaching. As noted in the Pre-service teachers’ excerpts, they valued their group learning more than classroom lectures by their tutors.

**Cooperative learning (CL)**

This source aims at creation of a community of learners made up of pre-service teachers and the tutors as facilitators. In this study, the community of learners was in form of focus discussion groups made up of ten pre-service teachers in equal gender proportions and the researcher as the facilitator. The aim of the community of learners is to establish team spirit and provide a forum for collaborative problem-solving
activities. As pointed out by Anne (2001), professional development of teachers is considered a collaborative process where there are meaningful interactions between teachers, administrators and parents. Lieberman and Mace (2009) argue that all teachers can benefit from making their teaching practices public and sharing with each other.

Through a community of learners, pre-service teachers are able to discuss the strengths and weaknesses of their lessons and thereby make improvements on their professional practices. Kiggins (2007) comments that, the issue of teachers working collaboratively has been in educational conversation since Dewey but has been taken seriously in last decade. The adoption of a community of learners provides teachers with a research team aimed at advancing collective intellectual growth through sustained collaborative investigation. Wenger (1998) indicates that most people learn better in a community of learners through three processes namely, learning through experience and practice, meaning (which implies learning is intentional) and identity (learning and changing who we are). The participation in a community of learners shapes not only what we do but also who we are and how we interpret what we do. As argued by Kiggins (2007), the community of learners help the members to work together and develop competent emerging professionals.

This source of learning was found very useful in this study as can be seen from the pre-service teachers’ excerpts on focus discussion groups and their perceptions on the same as indicated in their responses to the questionnaire. The source is also interlinked to classroom learning and reflective practice sources of learning. Pre-service teachers are expected to reflect on their teaching after each school-based session and thereafter share their experiences with their colleagues. Similarly, cooperative learning is equally important during classroom learning and micro-teaching where pre-service teachers discuss concepts, issues and their relationship to the teaching and learning process and education in general. This helps them to connect theory to practice though at a hypothetical and theoretical level. This skill is later put into practice during school-based learning.
This source of learning is critical to this model and indeed to most current models of teacher training such as the mentorship and knowledge building community models though it may be referred in different terms. For example, the mentorship and the knowledge building models refer to this source of learning as a community of learners. The difference between this model and the two mentioned is that it places the learner as the main determinant of his/her learning as opposed to the others where the mentor plays a more significant role in pre-service teachers’ learning. In Fig. 4.1, the rectangle representing the cooperative model is slightly larger than the rest for two reasons. First, it takes place both during classroom learning and micro-teaching and after reflective practice learning. Second, as can be deduced from pre-service teachers’ excerpts and experiences as indicated in their responses to the questionnaires, it was the most valued source of learning. Its importance is further supported by other research findings by Lieberman and Mace (2009), Kiggins (2007) and Wenger (1998) who point out that cooperative learning helps learners to collaboratively research in their area of interest and thereby collectively advance their intellectual growth through sustained collaborative investigation.

Further support has been put forth by Zwart *et al* (2009) who argue that, with time, professional learning has been acknowledged as a social enterprise in which professionals rely upon the enterprise and support of one another to adopt innovative new teaching methods. Whitecomb, Borko and Liston (2009) additionally support this argument by stating that a lot of current literature indicates that professional development experiences are effective when situated in a collegial learning environment where teachers work collaboratively to inquire and reflect on their teaching. Teachers who are involved in cooperative learning are intrinsically motivated to participate and feel more pressure to experiment with new strategies in constructive coaching environments.

**School-Based Learning (SBL)**

This source of learning represents the actual attachment of pre-service teachers to schools. In this study, it was carried out during teaching practice. The aim of school-based learning is to help the pre-service teacher develop an understanding of the primary school-based culture and how schools operate. This is already a
requirement for any pre-service teacher in the current traditional primary teacher education model in Kenya. However, in the formulated model for this study, school-based learning should be more enhanced in terms of generating problems for discussion in a community of learners. The objective is to increase pre-service teacher’s awareness on the teacher’s role in the classroom and school. This would reduce what Koetsier and Wubbels (1995) calls “reality Shock” that confronts beginning teachers when they start their teaching practice.

In this study, school-based learning was the source of problems for discussion during the focus discussion group meetings. Judging from the reflective diary recordings as noted in tables 4.16 – 4.20, this source of learning was very effective in generating the said problems for discussion. This source of learning is closely linked to both classroom learning and micro-teaching and reflective practice sources of learning. It is linked to classroom learning and micro-teaching because pre-service teachers will be expected to put into practice in an actual classroom setting what they have learnt in college. It is closely connected to reflective practice learning since it is the source of the issues to be reflected on by the pre-service teachers.

**Reflective Practice Learning (RPL)**

Anne (2001) indicates that a teacher is considered a reflective practitioner; one who joins the profession with a certain knowledge base in which he/she builds on new experiences. Schon (1983) notes that reflective practice helps beginning professionals retrospectively evaluate their individual performance. Adesina, Daraniola and Talabi (1989) recommend cooperative learning or a social interaction model as a means of improving teacher education. Reflective practice helps pre-service teachers confront existing theories and their preconceived ideas of what teaching entails taking into consideration what Thyalk and Cuban as quoted by Dembele and Miaro – 11 (2003) call the ‘grammar of schooling’. In other words ‘a set of expected patterns teachers have historically constructed regarding what teaching entails’.

In this study, reflective practice learning was carried out through recording of the pre-service teachers’ reflections on their teaching in a diary. These recordings formed the basis of discussion problems during
the focus discussion group meetings. As is evident from the analysis of the reflective diaries and the pre-service teachers’ excerpts on the same, pre-service teachers were well-engaged in reflective practice. They found the process valuable in seeking solutions to the teaching and learning problems they faced in their teaching and it helped them evaluate their teaching practice and improve on it. However, as can be noted from their excerpts, they found the process tedious and in some cases confusing. This, as indicated by Schon (1983), is expected from beginning reflective practice practitioners who may not want to confront their long-held beliefs and thereby invest in new learning.

From the foregoing, it is clear that the four sources of learning were effective in improving primary school pre-service teachers teaching effectiveness as evident from the results of the independent t-test for equality of means on all variables under study. In addition, the analysis of the pre-service teachers’ reflective diaries, the questionnaires and their excerpts as noted earlier support this evidence. The four models are fundamental in the training of a pre-service primary teacher. However, as indicated by pre-service teachers in their reflective diaries and the questionnaires, they preferred cooperative learning to classroom learning which they considered more vital in helping them creatively and collectively seek solutions to professional problems they encountered in their school-based experiences.

The four components are interlinked as indicated in figure 4.1. The advantages of the context-based primary pre-service teacher education model as compared to the traditional concurrent content-based pedagogical model already in place are varied as pointed out by Jonassen, Peck, and Wilson (1999), (Cheany & Ingebritsen, 2005), Tiwari, Wong and Lai (2005), Choi and Johnson (2005), Kiggins (2007), and Schwille, Dembele and Schubert (2007). They include:

a) Helping pre-service teachers participate in active, collaborative, authentic learner-centred learning processes.

b) Developing problem-solving and individual-educational abilities required to meet the challenges of life and career in ever-changing complex professional contexts.
c) Enabling pre-service teachers take responsibility for their learning through effective independent decision-making and individual as well as collective decision-making processes.

d) Transforming learning into a collaborative professional affair turning pre-service teachers into a team of educational researchers. Through this, pre-service teachers are more productive and positively influence each other. In addition, they are able to acquire skills such as conflict resolution, teamwork and understand how group dynamics work.

e) Helping pre-service teachers relate theory to practice through the incorporation of reflective practice, problem solving, cooperative learning and school-based learning. In seeking solutions to the problems they face, pre-service teachers are able to research and relate the problems to the theories learnt in class or proposed in reference materials.

f) Providing pre-service teachers with an opportunity to be creative and innovative in their teaching through solving problems, discussing in groups and reflecting on their teaching using the context of their workplace as source problems.

g) Fostering higher order thinking through problem-solving and reflective practice

h) Contextualizing learning by relating it to the work environment of the pre-service teacher and thereby connecting theory to the real work context.

The main potential challenges of the model include the enormous amount of time required to effectively implement it in a large scale, the costs required in terms of human resource and other resources and the requirement for re-training of the primary teacher educators and policy-makers as well as pre-service teachers to embrace a rather unconventional form of teacher training. As pointed out by Brooks and Brooks (1993), such individuals may experience a cultural shock and may be resistant to change. Nevertheless, based on the findings of this study and the advantages mentioned above, the context-based pre-service teacher educational model as discussed has more advantages than the current traditional content-based pedagogical model and is therefore, recommended for primary teacher education in Kenya.
4.9 Summary

The findings of this study have clearly shown that, context-based learning as a model of pre-service teacher training model improves teachers’ teaching effectiveness. The experimental group showed significant differences in instructional system planning, teacher-learner interactions, learners’ motivation and interest, use of instructional resources, and the total pre-service teachers score on classroom teaching performance as compared to the control group. However, there was no significant difference between the two groups in classroom management.

This study also established that pre-service teachers found the context-based learning model in form of focus discussion groups and reflective practice as useful sources of learning for primary teacher education. The analysis of the questionnaire and the reflective diaries in addition to the excerpts from pre-service teachers’ indicated earlier provided evidence that pre-service teachers were effectively engaged in the focus discussion group meetings and reflective practice. However, pre-service teachers felt that the amount of time for focus discussion group meetings was rather short and the amount of work involved in the two activities too much. Based on the findings of this study, a context-based pre-service teacher education model comprising four sources of learning; classroom learning and micro-teaching, cooperative learning, school-based learning and reflective practice learning was formulated and recommended for primary teacher education in Kenya. The model recommended enables pre-service teachers to be active participants in their learning and helps in relating theory to practice in primary teacher education.

Analysis of the reflective practice diaries indicated areas where pre-service teachers did well and where they had major difficulties such as in design, production and utilization of instructional resources in addition to motivation and creation of interest in their lessons. The use of an independent t-test for equality of means technique in this analysis can help in establishing the validity of these findings. Therefore, these findings can be generalized strictly within the two colleges but with possible implications to other primary teacher training colleges in Kenya.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS
5.0 Introduction

This chapter discusses the summary, conclusions and recommendations for action and for further research in the light of the objectives of the study.

5.1 Summary

Research findings reveal that undesirable teacher-centred instructional methods are still common in primary schools in Sub-Saharan Africa. This is attributed to the traditional concurrent content-based pedagogical pre-service teacher education models that do not give learners a chance to effectively participate in their learning, presents a fragmented view of learning and does not effectively relate theory to practice. There was, therefore, need to seek another new teacher educational model that can address the said limitations and hence the formulation of this study.

The main objective of this study was to establish whether the context-based learning model through use of focus discussion groups improves pre-service teachers’ teaching effectiveness. It also sought to identify the experiences and perceptions of pre-service teachers on focus discussion groups as a model of context-based learning. Lastly, it aimed at formulating a suitable pre-service primary teacher training model for Kenya. Five null hypotheses were formulated and tested. Literature reviewed showed that there was a strong relationship between a teacher’s teaching skills and the quality of learning in the classroom. However, the quality of learning in Sub-Saharan Africa primary schools is low due to the limitations of the traditional transmission oriented primary teacher education model used in many countries including Kenya as reported by Dembele and Miaro-11 (2003), the MoEST Report of 2003 and the Sessional paper No. 1 of 2005 among others.

A quasi-experimental research design in form of a pre-test/post-test longitudinal panel control group design was used for this study. Two groups of 40 pre-service teachers of equal gender proportions were stratified randomly selected from Meru and Egoji first year pre-service teachers who formed the experimental and
control groups respectively. The experimental group was further stratified randomly subdivided into four groups of ten on equal gender proportions. The groups were subjected to treatment in form of focus discussion groups and reflective practice for a period of seven weeks during the teaching practice sessions. Pre-service teachers were also subjected to pre-test and post-tests in form of a classroom observation schedule. An independent t-Test was used to establish whether there were significant differences between the experimental group and control groups in instructional system planning, teacher-learner interactions, learners’ motivation and interest, use of instructional resources and teacher’s classroom management and control.

Descriptive and inferential statistics were used to analyze data from the experimental group questionnaire and the reflective diary recordings. The results obtained showed that there were significant differences between the experimental and control groups on all the variables mentioned except on teachers’ classroom management and control. Results obtained from the questionnaire revealed that pre-service teachers found focus discussions useful in their professional development. The findings also proved that the cooperative source of learning component of the formulated pre-service teacher education model was operating well.

Analysis of the reflective practice diaries highlighted the areas pre-service teachers felt they performed well and those that they thought they had not done well in their teaching. Two areas stood out as the ones they did not do well in the analysis of their teaching. These were classroom management and control and use of instructional resources. However, it was noted that both groups performed well (above average) in classroom control and management during their classroom observation. Use of resources had the least mean score for both groups and this confirmed the pre-service teachers’ perceptions of their performance on this variable. Based on the findings of this study, a context-based pre-service primary teacher education model was formulated and recommended for primary teacher education in Kenya.

Research has proved that the current traditional content-based pedagogical model has many disadvantages which include lack of relating theory to practice, does not promote higher order thinking through problem
solving, being teacher-centred and not giving adequate room for pre-service teachers to actively participate in their learning and be creative and innovative. However, the traditional teacher education model requires fewer resources as compared to the recommended model and needs less time for implementation. The findings of this study have proved that the formulated primary teacher education model has more advantages than the traditional one and thus, its recommendation for use in Kenya.

The recommended model has four sources of learning which include: classroom learning and micro-teaching, cooperative learning, school-based learning and reflective practice learning. The four sources of learning are expected to interact as shown in fig 4.1 to produce an effective 21st century primary school teacher. The model has many advantages such as relating theory to practice, making learners active in their learning, developing problem-solving and individual educational skills of learners, enabling learners to take responsibility of their learning, providing learners with an opportunity to develop research skills within a team and encouraging learners to be creative and innovative in their classroom teaching among others. The model recommended requires a lot of time for preparation and implementation, new skills in organization, planning and implementation, a lot of capital, instructional and human resources for effective implementation. These can be considered as the disadvantages of this model. However, they can be overcome or minimized if the model is implemented in stages and there is adequate training of the implementers and effective monitoring.

5.2 Implications of the Findings

This study supports that the context-based learning model through the use of focus discussion groups and reflective practice improves pre-service teachers’ effectiveness in terms of instructional system planning, teacher-learner interactions, learners’ motivation and interest and use of instructional resources. Expected quality primary teacher education requires a supportive environment that includes classroom learning and
micro-teaching, school-based learning, cooperative learning and reflective practice learning. These findings support previous research on some components of the context-based learning model such as problem-based learning that showed a significant improvement on teacher effectiveness when such components were used in teacher training. It is clear from the findings that classroom management and control, was not significantly influenced by the use of context-based learning model.

The study also reveals that pre-service teachers had positive perceptions and experiences of the focus discussion groups as a form of the context-based learning model as noted from their responses in the reflective diaries, questionnaire and the excerpts given. Based on these findings, a pre-service teacher education model for Kenya that incorporates four components namely; classroom learning and micro-teaching, school-based learning, cooperative learning and reflective practice learning is recommended.

The implications of this study are that, appropriate measures be taken by the primary teacher education policy makers, curriculum developers and trainers to adopt the new context-based primary teacher education model for the training of pre-service teachers in Kenya. As has been determined in this study, the context-based learning model has components that allow learners’ to be actively involved in their learning, contextualize their learning, help them relate theory to practice and develop higher order thinking through problem-solving and reflective practice among other benefits. The model also promotes responsible learning where learners take responsibility of their own learning and thus, enhancing the pre-service teacher’s effectiveness in the classroom.

Another implication of this study is that pre-service primary teachers should be given room by their tutors to effectively participate in their learning and creatively seek solutions to the problems they face in their learning through individual reflections and cooperative learning processes. Their responses from the questionnaires, reflective practice diaries and the excerpts mentioned provide evidence that pre-service teachers value effective participation in their learning. The third implication of this study is that pre-service teachers should be given an opportunity to reflect on their teaching through an established process that
involves recording of their reflections. These reflections should then be discussed in a group in order for pre-service teachers to learn from one another and create a support group referred to in this study as cooperative learning.

The reflective diary records clearly indicate that pre-service teachers were able to diagnose their strengths and weaknesses in classroom teaching and in some cases provided solutions to the classroom teaching problems they faced. In addition, their views as supported by the excerpts mentioned and the responses from the questionnaires reveal that they valued the aspect of reflecting on their teaching and the subsequent discussions on their reflections.

5.3 Conclusion

The first objective of this study was to establish whether the context-based learning model in form of focus discussion groups improved pre-service teachers teaching effectiveness. The study used classroom observation data to compare performance between pre-service teachers trained through the traditional concurrent content-based pedagogical model (control group) and those trained through the context-based learning model (experimental group). Five research hypotheses were used to test whether there were differences between the two groups. The findings obtained showed that the context-based learning Model in form of focus discussion groups was superior to the current traditional content-based pedagogical model on all the tested variables except on classroom control and management. On the basis of these findings, a new model for pre-service teacher education for Kenya was recommended.

5.3.1 Teacher-learner Interactions and Training Model

The first study hypothesis was that, there was no significant difference in teacher-learner classroom interactions between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model. Pre-service teachers' performance on this variable was measured against the effect of the context-based learning model and the traditional learning model for the
experimental and control groups respectively. The findings obtained revealed that there was significant difference between the two groups with an independent t-test value of $t(78) = 2.458$, $p < .05$. Therefore, it is clear that, the context-based learning model as a pre-service training model improves teacher-learner interactions as compared to the traditional learning model. These research findings agree with the findings of Kiggins (2007), who points out that the context-based learning model helps teachers to engage their learners by motivating them to actively participate in their lessons.

### 5.3.2 Learners’ Motivation, Interest and Training Model

The second hypothesis stated that, “There was no significant difference in teacher’s motivation of learners between pre-service teachers trained through the context-based learning model and those trained through the traditional learning model.” The findings obtained indicated an independent t-test value of $t(78) = 2.348$, $p < .05$ which showed that there was significant difference between the experimental and control groups on this variable. These results show that, the context-based learning model improves pre-service teachers’ motivation of learners. These findings are consistent with the observations of Tiwari, Wong and Lai (2005) that indicate that context-based learning model increases learners’ motivation to learn and encourages teachers to increasingly motivate their learners.

### 5.3.3 Instructional System Planning and Training Model

The third hypothesis stated that “There was no significant difference in instructional system planning between pre-service teachers trained through context-based learning model and those trained through the traditional learning model.” The findings of this study proved that there was significant difference (an independent t-test value of $t(78) = 5.327$, $p < .05$) between the experimental and control groups on this variable. These findings showed that context-based learning as a model of training teachers improved their instructional system planning as compared to the traditional training model.
5.3.4 Use of Instructional Resources and Training Model

The fourth hypothesis stated that, “There was no significant difference on the use of instructional resources between teachers trained through context-based learning model and those trained through the traditional learning model.” Findings from this study pointed out that there was significant difference level between pre-service teachers trained through context-based learning model and those trained through the traditional learning model in the use of instructional resources with an independent $t$-Test value of $t (78) = 2.807, p < 0.05$. This showed that context-based learning model as a method of training pre-service teachers improved their use of instructional resources in their teaching.

5.3.5 Classroom Management, Control and Training Model

The fifth hypothesis was that, “There was no significant difference in teachers’ classroom management and control between pre-service teachers trained through context-based learning model and those trained through the traditional learning model”. The findings obtained from this study indicate that there was no significant difference between the experimental and control groups in classroom management and control. This reveals that context-based learning as a model of training teachers did not have a significant effect on pre-service teachers’ classroom control and management. It can be noted that both groups had above average mean score on this variable though they had cited it as the major area they did not do well in their classroom teaching.

The findings revealed that context-based learning in the form of focus discussion groups as a model of pre-service teachers’ training improved their classroom teaching. These results achieve the first objective of this study and are consistent with other research findings and observations by Jonassen, Peck, and Wilson.
(1999), (Cheany & Ingebritsen, 2005), Tiwari, Wong and Lai (2005), Kang’ethe, Nafukho and Mutema (2002), Choi and Johnson (2005) and Kiggins (2007) who indicate that context-based learning as a model of training teachers helps pre-service teachers to effectively participate in their learning, motivates them to learn and improves their problem-solving skills and enhances their higher order thinking skills. This approach also helps teachers to connect their professional training to the actual experiences in the classrooms and schools through collaborative and reflective learning.

5.3.6 Pre-service Teachers’ Perceptions and Experiences of Focus Discussion Groups as a Model of Context-Based Learning

The second objective of this study sought to identify experiences and perceptions of pre-service teachers on focus discussion groups as a model of context-based learning. A questionnaire was issued to the experimental group after treatment. The findings obtained revealed that majority of the pre-service teachers found focus discussion groups useful in their professional development. Their reasons for this positive rating include; enhancing their knowledge and skills in motivation and creation of interest in their lessons, helping them involve their learners more in the classroom, making them more creative in the production and use of teaching and learning resources and increasing their knowledge and skills in classroom control and management. These results in addition to the pre-service teachers’ feedback gave strong indicators that focus discussion groups were useful to pre-service teachers and gave them an opportunity to independently and individually reflect on their classroom teaching experiences and collaboratively seek solutions to classroom problems they faced. However, a number of pre-service teachers felt that the time for group activities was short and group activities needed more control perhaps due the fact that they were not used to the new training organization.

These findings are in agreement with the observations and findings of Kiggins (2007), Cheany and Ingebritsen, 2005), Tiwari, Hammond (2006), Wong and Lai (2005), and Choi and Johnson (2005 who found that pre-service teachers were motivated and interested in participating in a community of learners which not only helped them discuss their classroom problems but provided them an avenue for support and encouragement in their professional development.
5.3.7 Context-Based Primary Teacher Education Model

The third objective of this study was to formulate a primary teacher education model for Kenya. In line with this objective and based on the findings of this study, a context-based primary teacher education model was formulated. The model has four components that must interact in order to produce an effective primary school teacher. The four components are; classroom learning and micro-teaching, cooperative learning, school-based learning and reflective practice learning. When the four elements operate well and interact, the expectation is an effective and quality teacher. The findings of the classroom observations, the experimental group questionnaire and the reflective diary recordings indicated that the four elements were operating well and hence the significant difference between the experimental and control groups and the positive rating of the focus discussion groups by the experimental group.

Pre-service teachers’ reflective diary recordings and their quotes further indicate that the elements were working well in this study. As noted from the pre-service teachers’ excerpts and the observations from other researchers, the context-based learning model helps pre-service teachers participate in active, collaborative, authentic learner-centred learning processes, develops their problem-solving and individual-educational abilities, transforms learning into a collaborative professional affair turning pre-service teachers into a team of educational researchers, helps pre-service teachers relate theory to practice, provides pre-service teachers with an opportunity to be creative and innovative in their teaching, fosters higher order thinking through problem-solving and reflective practice and contextualizes learning by relating it to the work environment of the pre-service teacher and thereby connecting theory to the real work context.

The main challenges of this model include a lot of time required in its effective implementation especially in large scale, the large amount of resources required and the need for re-training of the educators, policy-makers and pre-service teachers to embrace the model. However, the advantages outweigh the disadvantages and thus, the model is recommended for primary teacher education in Kenya.
Recommendations are made to primary teacher education policy-makers, curriculum developers tutors and pre-service teachers to design and implement context-based learning models in the training of primary school teachers in order to create learner-centred lessons, make pre-service teachers responsible for their learning and consequently, help them to relate theory to practice develop higher order thinking and problem-solving skills and contextualize their teaching in primary schools.

Primary teacher education policy makers are recommended to design in-service intervention measures to address the shortcomings of the current primary teacher education model. Further research is recommended in determining the effect of each context-based learning model component on pre-service teacher effectiveness and finding out tutors teaching practices.

5.4 Recommendations for Action

Various research findings and the Kenya government documents such as the Sessional paper No. 1 of 2005, KESSP document of 2005 and the MoEST document of 2003 clearly indicate that the quality of primary school teachers in Kenya is low and attribute this to the limitations of the current traditional primary teacher education model. The recommendations hereunder have been drawn from the analysis of this study. Pursuant to the findings of this study that the context-based learning model improves pre-service teachers’ effectiveness, the following recommendations should be considered by primary teacher education policy-makers, curriculum developers, tutors and pre-service teachers.

a) As a result of the need to expose pre-service primary teachers to learner-centred and problem-based learning approaches that ensure that they are exposed to effective teaching methods and hence improve the quality of primary school teachers as recommended by the KESSP document of 2005 and the Sessional Paper No.1 of 2005, it is important for curriculum developers and tutors to develop and implement context-based learning approaches to teacher training.

b) Primary teacher education policy-makers need to develop appropriate in-service intervention measures to address the limitations of the current traditional pre-service teacher education model
as highlighted by the Sessional Paper No. 1 of 2005 and the KESSP document of 2005. The intervention measures need to incorporate the context-based learning model components in the in-service training as a way of addressing the limitations of the current primary school teacher education model.

c) Due to the advantages associated with context-based primary teacher education model such as the linkage of theory to practice and active involvement of learners, policy-makers should adopt it in stages as the new model for training pre-service primary school teachers in Kenya. This would avoid a quick shift which is associated with overhaul problems.

d) Primary teacher training college tutors need to design and implement the context-based learning model to teaching in order to expose their learners to learner-centred methods of teaching and learning that encourage per-service teachers to effectively participate and take responsibility in their learning and hopefully transfer the same to their classrooms.

e) Production and use of instructional resources is a fundamental component of effective classroom teaching. They not only concretize the content but also motivate and create interest in the lesson. This study revealed that this was a major area pre-service teachers did not do well in and indeed, classroom observations confirmed the same. To help pre-service teachers acquire the skills of production and effective utilization of instructional resources, curriculum developers and tutors need to:

- make sure that production and utilization of instructional resources is a major part of primary teacher education curriculum. The curriculum should incorporate a strong component on production with emphasis on improvisation and use of locally available instructional resources. The main instructional resources noted in almost all the classrooms were wall charts.

- emphasize on production and utilization of instructional resources by pre-service teachers during teaching practice. They should be encouraged to be creative and innovative through the use of locally available resources in production of instructional resources. In
this study, it was noted that, pre-service teachers mainly produced wall charts as a teaching and learning resource.

f) The findings of this study have shown that the context-based learning model improves pre-service teachers’ teaching effectiveness. Consequently, it is recommended that they should be encouraged to embrace it as a model of their training and eventually as an approach of their teaching practices in primary schools. This will promote effective learning in primary schools where learning is context-based, learners are actively involved and where the pupils higher order thinking and problems-solving skills are enhanced. However, there is need for re-training of primary teacher educators. The model will also need to be implemented in stages in order to overcome two of its major challenges.

g) This model is involving and primary teacher educators will need to update their knowledge and skills. Therefore, it is recommended that there should be frequent in-service courses for primary teacher educators.

5.5 Recommendations for Further Research

This study has identified gaps that could be further researched on to support or add more insights into the findings. Although the study revealed that the context-based learning model improves pre-service teacher performance, this was a combined effect of all the components of the context-based learning primary teacher education model. This implies a need to investigate the effect and the magnitude of each component on pre-service teacher effectiveness. Future research can thus focus on the effect of each element on teacher effectiveness in the classroom.

The findings of this study revealed that, pre-service teachers faulted their tutors for non-utilization or inadequate utilization of instructional resources in their classrooms. This point out a possible limitation on the knowledge and skills of primary teacher education tutors with regard to pedagogical knowledge and skills or lack of effective teaching methods. There is need to research on primary teacher education tutors classroom teaching practices. As noted by Feiman-Nemser (2001) and UNESCO (2005) in most cases,
teacher educators do not practise what they preach and as a result, a large proportion of primary school teachers lack adequate training especially in developing countries. The influence of primary teacher educators is critical in the quality of pre-service teachers.

This study focused on two primary teacher training colleges as the accessible population. There is need for a replicated research that incorporates more primary teacher training colleges. This may increase information on context-based learning as a model of primary teacher education in Kenya and further support the findings of this study.
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APPENDICES

APPENDIX A
INDICATORS FOR EVALUATION

The following indicators will help you evaluate the performance of the pre-service teacher in relation to each variable as indicated in the classroom observation schedule (Appendix B).

1. **Instructional System Planning**
   
a) Scheme of work indicators
   
   - Administrative details (Name, Subject, Class, Term and Admission number)
   - Month, week and period column clearly indicated
   - Objectives column and clearly stated objectives
   - Content clearly stated
   - Teacher/learner activities correctly indicated
   - Instructional resources
   - Teaching references clearly indicated
   - Remarks column
   - Neatness and orderliness

   b) Lesson plan indicators
   
   - Administrative details (Name, Admission No., Subject, Class, Term and Topic)
   - Clearly stated and measurable objective(s)
   - Clearly indicated time column
   - Content correctly indicated
   - Teacher/learner activities clearly indicated in measurable terms
   - Instructional resources
   - Self Evaluation section
   - Concurrence with the scheme of work
   - Neatness and orderliness
   - To what extent did the teacher follow the lesson plan in the delivery of the lesson?

   c) Lesson learning objective(s) indicators
• Clarity
• Related to the content being taught
• Measurable
• Stated in learners’ behavioural terms

2. Teacher – Learner Interactions
   a) Teacher-learner interactions
      • Duration that was purely teacher talk
      • The number of questions asked by the teacher
      • The number of questions asked by the learners
      • The responses by the learners to questions asked by the teacher and vice versa
      • Encouragement given to the learners to answer questions
      • Distribution of questions in the class
   b) Learners’ involvement and participation
      • What methods were used by the teacher to encourage learners’ involvement?
      • What were the learners’ responses to the questions asked by the teacher?
      • What methods were used by the teacher to encourage learners’ involvement?
      • Were all the learners involved in the lesson?
      • Use of teacher/learner activities that would enhance teacher-learner interactions.

3. Learners’ Motivation and Interest
   a) Lesson introduction in terms of creating learners’ motivation and interest
      • Was there any introduction and did it capture learners’ attention?
      • What did the teacher use to gain learners’ attention?
      • Was the lesson topic written on the chalkboard?
      • Was the introduction interesting and motivating to the learners?
      • Was the introduction related to the lesson topic?
      • Was the teacher lively and enthusiastic in his/her presentation?
b) Teacher’s mastery of the subject matter
   - Was the subject matter accurate?
   - Was the subject matter of the appropriate depth and breadth to the level of the learners?
   - Was the subject matter presented sequentially from the simple to the complex?
   - Did the teacher use appropriate examples that are within the learners’ experience and everyday life situations?

d) Application of relevant teaching skills in relation to the content
   - What teaching skills did the teacher use in the lesson?
   - Did the teacher use the teaching skills appropriately in delivering the content?

e) Teacher’s use of reinforcements
   - What kind of reinforcements did the teacher use?
   - Were the reinforcements appropriately used?
   - Were the reinforcements well-varied?

f) Teacher’s confidence, voice projection and variation
   - Did the teacher display mastery of the language of instruction?
   - Was the teacher confident in the delivery of the lesson?
   - Was the teacher’s voice audible to all the learners?
   - Did the teacher appropriately vary his/her voice?

4. Use of Instructional Resources
   - Which teaching resources were used?
   - Were the resources appropriate for the lesson in relation to the content?
   - Were the resources appropriately timed?
   - Were the resources properly displayed for all pupils to see?
   - Did the teacher show creativity and innovation in the use of the teaching aids?
5. Classroom Control and Management

- Did the teacher clearly spell out the objectives to be accomplished by learners or what is expected of them?
- What methods did the teacher use to control and manage the class?
- Did the teacher keep up-date class records?
- Did the teacher display appropriate behaviour towards the learners?
- Did the teacher recognize all learners by name?
CLASSROOM OBSERVATION SCHEDULE

Adapted from Meru Teachers’ Training College, Georgia and the University of Maryland teachers’ assessment observation instruments

This classroom observation schedule aims at gathering data on pre-service teachers’ classroom performance. All data and information obtained through this observation schedule will be treated with strict confidence and will only be used for statistical purposes. Therefore, you are requested to make your honest and candid pre-service teacher classroom behaviour observations objectively taking into consideration the indicators of each observation listed in Appendix B.

Directions:

1. In using this instrument, please observe the following:

   **Step 1.** Use one copy of the instrument for each learner’s observation

   **Step 2.** Examine the performance of the teacher using the indicators in Appendix B on a ten-scores scale as provided in the key below for each performance category. Indicate the appropriate objective and honest evaluation of the pre-service teacher in the box for each respective performance category.

**KEY:**
- VW- Very weak (1-2 scores)
- VG- Very good (9-10 scores)
- W- Weak (3-4 scores)
- A- Average (5-6 scores)
- G- Good (7-8 scores)

College

Name of the pre-service teacher

Reg. no.

Gender of the pre-service teacher

Male   Female

Award the appropriate and honest score of the pre-service teachers’ classroom performance (within the range of 1-10) in each of the following indicated areas.
### 1. Instructional System Planning

<table>
<thead>
<tr>
<th></th>
<th>VW 1-2</th>
<th>W 3-4</th>
<th>A 5-6</th>
<th>G 7-8</th>
<th>VG 9-10</th>
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<td>1.1</td>
<td>Scheme of work in terms of inclusion of relevant details.</td>
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<td>1.2</td>
<td>Organization of the scheme of work.</td>
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<td>1.3</td>
<td>Lesson plan in terms of inclusion of relevant details</td>
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<td>1.4</td>
<td>Lesson plan utilization during the lesson delivery</td>
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<td>1.5</td>
<td>Learning objective(s) in terms of clarity, measurable and stated in the learners’ behavioural terms.</td>
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<td>1.6</td>
<td>Correspondence of the lesson plan to the scheme of work.</td>
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### 2. Teacher-learner Interactions.

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<tr>
<td>2.1</td>
<td>Teacher-Learner interactions</td>
</tr>
<tr>
<td>2.2</td>
<td>Learner’s involvement and participation</td>
</tr>
<tr>
<td>2.3</td>
<td>Use teacher/learner activities that would enhance teacher-learner interactions.</td>
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### 3. Learners’ Motivation and Interest.

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<td>3.1</td>
<td>Clarity in terms of objectives to be accomplished and teacher’s expectations of the learners.</td>
</tr>
<tr>
<td>3.2</td>
<td>Lesson introduction in terms of creating learners’ interest.</td>
</tr>
<tr>
<td>3.3</td>
<td>Teacher’s mastery of the subject matter</td>
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<tr>
<td>3.4</td>
<td>Teacher’s lesson delivery in terms of relating it to the previous lesson(s) and everyday life environment.</td>
</tr>
<tr>
<td>3.5</td>
<td>Application of a variety and relevant teaching skills in relation to the content.</td>
</tr>
<tr>
<td>3.6</td>
<td>Teacher’s use of reinforcements in class</td>
</tr>
<tr>
<td>3.7</td>
<td>Teacher’s confidence in the delivery of the lesson.</td>
</tr>
</tbody>
</table>
3.8 Teacher’s voice projection and variation.

3.9 Teacher’s Presentation style (Enthusiasm)

4. Use of Instructional Resources.

4.1 Creativity and innovativeness in utilization of instructional resources.

4.2 Relevance of the instructional resources to the content and class level

4.3 Timeliness in terms of appropriate time of display, duration of display and the place they are displayed.

5. Classroom Management and Control.

5.1 Teacher’s use of classroom control and management methods.

5.2 Teacher’s recognition of learners’ individual abilities and needs.

5.3 Teacher’s disposition and appropriate behaviour towards learners.

5.4 Teacher’s management of records such as records of work, learners’ performance records and register.

5.5 Teacher’s recognition of learners by name.
APPENDIX C

QUESTIONNAIRE FOR THE EXPERIMENTAL GROUP

This questionnaire aims at gathering information on your perceptions and evaluation of the focus groups on teaching and classroom practice you participated in. All data and information obtained through this questionnaire will be treated with strict confidence and will only be used for statistical purposes. Therefore, answer all questions honestly and candidly without fear.

Please tick the boxes where appropriate.

Name: -------------------------------------------------------------

Gender: Male ☐ Female ☐

Group: -------------------------

1. What is your rating of the focus discussion group meetings on teaching and classroom practice towards the development of your professional teaching career?
   ☐ Very Useful ☐ Useful ☐ Somehow Useful ☐ Not useful

2. Please give reasons for your answer in question one above.
   i. -------------------------------------------------------------
   ii. -------------------------------------------------------------
   iii. -------------------------------------------------------------
   iv. -------------------------------------------------------------

3. What is the rate of your level of participation in the focus discussion Group meetings?
   ☐ Very active ☐ Active ☐ Moderately active ☐ Not active

4. If you have answered moderately active or not active to question 3 above, what
were the reasons that inhibited your active participation in the focus discussion group?

i

ii

iii

iv

5. How can the focus discussion group meetings on teaching and classroom practice be improved?

i

ii

iii

iv

APPENDIX D

FOCUS DISCUSSION GROUP SCHEDULE

Focus discussion groups deliberations should be based on the diary entries by pre-service teachers. The focus discussion schedule is only aimed at guiding you in facilitating and conducting purposeful focus discussion group meetings on the experiences of pre-service teachers teaching and classroom practice.
in the areas required. The purpose of the focus discussion groups is to enable pre-service teachers to effectively participate in their learning through discussions and seek solutions to the teaching and classroom practice problems they encounter. Therefore, make sure that the group sets its own targets to be achieved in their next teaching assignments. The following questions can help you in facilitating the discussions.

1. What went on well in your classroom teaching for the week and why?
2. What did not go well in your classroom teaching and why?
3. Which details did you include in your scheme of work? Which among them were wrong? And which did you not include?
4. Which details did you include in your lesson plan? Which among them were wrong? And which did you not include?
5. What are the elements you considered in stating your instructional objectives? and why? What are the elements you didn’t consider and why?
6. How can you improve on your preparation of the scheme of work, lesson plans? and statement of instructional objectives?
7. Which methods did you use to motivate your learners? Which other methods could you have used and why didn’t you use them?
8. Which methods did you use to motivate learners’ in the lessons? Which other methods could you have used and why didn’t you use them?
9. How did you organize and order your lessons? Use an example of an already taught lesson.
10. Which teaching skills did you use in your lessons? Which other teaching skills could you have used and why didn’t you use them why?
11. Were you confident, cheerful and accurate in the delivery of your lesson? If not why?
12. Which instructional resources did you use in your lessons and what was the purpose for each? Which other instructional resources could you have used
but you didn’t and why?

13 What methods did you use to effectively control and manage all your classes during your lessons?

14. Which reinforcements did you use in your lessons? Which other reinforcements could you have used and why did you not use them?

15. Was your use of voice varied and well-projected in all your lessons? If not, why?

16. What can you do to improve on your general classroom teaching?

APPENDIX E

REFLECTIVE TEACHING DIARY

The following reflective teaching diary is aimed at helping you reflect on your teaching and classroom practice for the day. The purpose is to enable you to identify your strengths and weaknesses in your teaching skills and seek solutions to the problems you encounter during your teaching. The following notes should help you reflect on specific areas in your teaching behaviour.

1. Was my scheme of work helpful in preparing for my lesson? Give reasons for your answer.

2. Was my lesson plan helpful in the delivery of the lesson? Give reasons for your answer.

3. Were the learning objectives clear and measurable?

4. Which methods did I use to motivate learners? Were they effective?

5. Was my lesson well-organized and logically presented?

6. Which methods did I use to involve learners in the lesson? Were they effective in involving learners?

7. Were I confident, cheerful and accurate in the delivery of the content?
8. Which teaching aids did I use and how appropriate were they in helping the learners to learn?
9. Which learning activities did I use in the class? Were they effective in involving learners in the lesson?
10. Was the content and learning activities suited for the level and abilities of the learners?
11. Which methods did I use to control and manage the class? Were they effective?

Subjects Taught

Topics

REFLECTION

1. What went on well in my lessons and why?
2. What did not go on well and why?

3. What can I do to improve on my teaching knowledge and skills?

APPENDIX F

Pre-service Teachers’ Classroom Observation Pilot Data

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**Appendix G:**

Map on Location of Meru and Egoji Teacher Training Colleges
Egoji is approximately 40 kms from Meru and 5 kms from Chogoria

Key:
5 cm = 5kms

APPENDIX H

Research Permit
I am to certify that: SULEIMAN RO MWANGI
(Kenyatta University
BOX 43844 NAIROBI
been permitted to conduct research in:
Ji and Meru Teachers Colleges
Ru North and Embu district, s
Eastern Province,
the topic:
Towards Context Learning
as a Model for Pre-Service
Primary Teacher Education in
Kenya: A Case of Meru and Egoji
Teachers Colleges
period ending 30th May, 2010

Research Permit No. MOST 13/001/38C 146
Date of issue: 21.4.2008
Fee received: SHS.1000.00

Applicant's Signature
Permanent Secretary
Ministry of Science and Technology