

INFLUENCE OF PRE-SCHOOL TEACHERS' REFLECTIVE TEACHING ON  
CHILDREN'S ACADEMIC PERFORMANCE IN MOLO DISTRICT, KENYA

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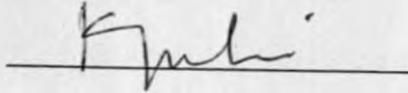
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## DECLARATION

This report is my original work and has not been submitted for an award of degree in any other institution



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This report has been submitted for examination with our knowledge as university supervisors



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## **DEDICATION**

This thesis is dedicated to my sons Simon Kihara and Alex Thumbi, who represent the future of my family: to my parents for laying a strong educational background in me.

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## **LIST OF ABBREVIATIONS\ACRONYMS**

**DICECE: District Centre of Early Childhood Education**

**DEO: District Education Officer**

**IDPs: Internally Displaced Persons**

**NACECE: National Centre of Early Childhood Education**

## ABSTRACT

The purpose of this study was to examine the influence of pre-school teachers' reflective teaching on children's academic performance in Molo District, Kenya. The review of related literature focused on the nature of reflective teaching and the benefits of reflective teaching which provided the guideline and laid the background of this study. Stratified random sampling and simple random sampling were used to come up with the required sample. A sample of 24 preschools was selected for the study among a population of 151 preschools in the District. A total of 29 preschool teachers and 285 preschool children participated in the study. The data was collected using a questionnaire for preschool teachers, a preschool test for preschool children, and documentary analysis of preschool teachers. The sample was divided into two equal groups. Each group was further divided in five divisions. The two group divisions were then paired. Teachers in one group divisions received training on reflective teaching/elements of reflective teaching using a training module. The training was not given to the other group. A pretest and a posttest were administered to preschool children in both groups. The pretest was administered before treatment was given. Data collected from the tests was analysed using a computer programme SPSS statistics 17.0 for Windows. A paired samples t-test was used to determine whether a statistically significant difference existed within a given pair of samples in children's mean scores in academic performance. Data from questionnaires and documentary analysis forms was analysed manually and was used to give meaning to the children's mean score differences obtained from the tests at the two stages. Paired samples t-test at 0.05 significance level was set as the decision rule of thumb; either to accept or reject the null hypotheses. The main findings of this study indicated that there was statistically significant difference in children's mean scores in academic performance in classes where teachers used reflective teaching and where they did not. The study further found out that there was no statistically significant difference when only one element of reflective teaching was employed at a time. In the latter case; however, it was found out that there was general improvement in children mean scores compared to the controls (teaching without the particular elements of reflective teaching). Based on these findings and the fact that most of the children attending preschools in Molo District, Kenya face various forms of vulnerability because of constant land, tribal and political clashes between communities who inhabit this area for the last two decades; it is recommended that preschool teachers in Molo District should be trained on reflective teaching objectives and techniques. This should be done through regular in-service courses, workshops and seminars. Further, it is recommended that reflective teaching materials, including recent research findings should be made available in preschools and resource centers in the District to enable the teachers to have a local resource on reflective teaching.

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background to the Study.

Dewey (1904) advocated for development of reflective teaching. He urged that democratic culture requires for its members a capacity to adapt to diverse circumstances and to co-operate as equals with men and women of many different sorts. He stressed that teachers should use pedagogical methodology of “learning by doing” and connecting the material of formal school instruction with child’s experiences outside the classroom. Dewey’s (1935) image of a good society was the one, where men and women were active agents, intelligently setting their own standards and participating freely and equally in the making of their common destiny. Dewey (1935) defined reflective thinking as an active, persistent and careful consideration of any belief or supposed form of knowledge in the light of ground that support it and the further conclusion to which it tends. He urged that, by thinking reflectively, a person can transform a situation in which there is experience obscurity, doubt, conflict or disturbance of some sort, into a situation that is clear, coherent, settled and harmonious. Teachers’ response to these democratic imperatives would therefore aim at training learners in habits of free and constant inquiry, in capacities to learn quickly and in attitudes of social fellow feeling and co-operation.

The focus on reflective teaching as it applies to education is recognizing that teaching is problematic (Grimmett, 1988). Second, action is an integral part of the reflective teaching (Ginburg and Cliff, 1990). Reflective teaching is seen as a bridge

across the chasm between educational theories and practice. The knowledge base for reflective teaching includes personal knowledge (i.e. prior experience and belief), craft knowledge (i.e. teaching skills) and propositional knowledge (i.e. research and theory) (Doyle, 1990). Teachers are encouraged to evaluate, modify and try again the above knowledge bases in a collaborative environment in a process referred to as collective participation (Garet, 2000).

The advantages of teaching reflectively could be many for individual teachers, the teaching profession, schools and countries that are willing to employ and encourage its use. For example, Farrell (2001) and Coyle (2002) point out that reflective teaching demand that teachers employ and develop their cognitive skills as a means of improving their practice. They would recall consider and evaluate their teaching experience as a means of improving their future classes. Cole (1997), Coyle (2002), Hyrkas, Tarkka and Illomen (2001) and Calderhead (1992) urge that reflective teachers develop and use self-directed critical thinking and ongoing critical inquiry in their practice, initiated by them and not administratively decreed. The result is the development of contextualized knowledge.

Elder and Parl (1994) and Halpern (1996) also point out that reflective teachers would think critically, which involves the willingness to question, take risk in learning, try out new strategies and ideas, seek alternatives, take control of learning, use higher order thinking skills and reflect upon their own learning process. They would discuss with others the problems they encounter as suggested by Cunningham (2001). According to Zeichner and Liston (1996) the teachers should be responsible for identifying subject content deficiencies and through the act of being reflective

and autonomous, address such deficiencies. Reflective teaching also demands that teachers use and develop their affective skills as a means of improving their practice. According to Markham (1999), they would use their intuition, initiative, values and experience during teaching and exercise judgment about the use of various teaching and research skills. Markham (1999) further suggests that teachers would also take personal risks, for reflective teaching demands the sharing of perceptions and beliefs with others. They would engage in the disclosure of feelings, ideas, receiving and giving feed back as part of a collaborative experience (Day, 1999).

According to Coyle (2002), reflective teaching can lead to creative and innovative approaches to classroom and school situations and problems and this could eventuate into improved learning opportunities for students. When this happens, the school could boost improved students learning. Posner (1989) urges that reflective teaching involves critical thinking, which aids a teacher in being deliberate and intentional in devising new teaching methods, rather than being a slave to traditional methods or to challenge accepted ways that schools have always carried out the tasks of teaching.

Teachers' self-reflexivity according to Erickson (1986) can mitigate against vulnerable children. Brickhouse (1994) points out that vulnerable children underperform in schools because of structural and institutional constrains which pose as barriers to successful participation in school (lack of teachers' support, encouragement, attention, after school activities, role models and peer support).

According to Haigh (2004), several factors make particular ways of teaching more

appropriate. He contends that teachers have the capacity through education and training to develop the art of reflective teaching. In Kenya, there is an overwhelming agreement by the public that teachers have a huge influence on people's lives because they shape the mind of young learners (Bogonko, 1991). The training of pre-school teachers in Kenya is undertaken by universities, District Centre of Early Childhood Education personnel and other trainers from non-governmental organizations. The training that is recognized by the Ministry of Education includes areas such as child development, learning theories, curriculum, maternal development and community development (Manani, 2005). The cardinal objectives of this pre-school teachers' training programme, which constitute a two year in-service course are aimed at catering for the total development of the child. This includes cognitive, social, physical, linguistic, moral, emotional and spiritual development (Kipkorir and Njenga, 1997).

According to the Report of the Republic of Kenya on Basic Education For All: Issues and Strategies 1991-2000 and Beyond (Republic of Kenya, 2000), reflective teaching which could be of great value to children who have faced social disruptions, is not included as a main component of preschool teacher training. Lack of training pre-school teachers in reflective teaching, brings a perplexing situation in Molo District where children face various forms of vulnerability.

### **1.1 Statement of the Problem**

Pre-school children attending Molo District schools have been affected by tribal animosity, conflict and internal human displacement (Koigi, 2009). These children therefore face tribal stigma and discrimination by virtue of coming from certain

ethnic groups or being Internally Displaced Persons. Some of these children lack basic needs such as proper clothing, security needs, belonging needs and self-esteem needs among others. Other children face various forms vulnerabilities because their parents or guardians were evicted from their homes by tribal clashes and post election violence 2007/2008 (Children Rights in Kenya: Situational Analysis, 2008).

By the fact that the programme of training pre-school teachers in Kenya does not include reflective teaching, teachers may therefore fail to address or ignore the impact of ethnic conflict among children who have gone through tribal violence. This could lead to poor academic performance due to stigma, discrimination, animosity, anxiety and poor attitude among themselves. Since reflective teaching has been shown to imbue value to children in difficult circumstances; the researcher therefore trained reflective teaching/elements of reflective teaching to pre-school teachers in Molo District, Kenya: these were collaborative teaching, peer mentoring, journal keeping and use of written evaluation questions. The researcher tested whether use of these reflective teaching/elements of reflective teaching would bring an appreciation of one another from early in life, enable translation from violence to peace, establish new democratic processes and be reflected in children tests and examinations results mean scores as shown in the conceptual framework (Figure 2.1pp. 25).

## **1.2 Purpose of the Study**

The purpose of this study was to examine the influence of pre-school teachers' reflective teaching on children's academic performance in Molo District, Kenya.

### **1.3 Research Objectives**

The main objective was to determine whether children's mean scores in academic performance differ significantly in classes where teachers use reflective teaching and the ones where they do not. The specific objectives were to:

- i) Determine whether children's mean scores in academic performance differ significantly in classes where teachers use collaborative teaching and the ones where they do not.
- ii) Examine whether children's mean scores in academic performance differ significantly in classes where teachers use peer mentoring and the ones where they do not.
- iii) Determine whether children's mean scores in academic performance differ significantly in classes where teachers keep journals and the ones where they do not.
- iv) Determine whether children's mean scores in academic performance differ significantly in classes where teachers use written lesson evaluation questions and the ones where they do not.

### **1.4 Hypotheses of the Study**

The hypothesis to meet the main objective was: The mean score of preschool children mean scores whose teachers use reflective teaching is not significantly different from the mean score of children whose teachers do not use reflective teaching. The specific hypotheses were:

- i) Ho<sub>1</sub>: The mean score of preschool children academic performance whose teachers use collaborative teaching is not significantly different from the mean score of children whose teachers do not use collaborative teaching.
- ii) Ho<sub>2</sub>: The mean score of preschool children academic performance whose teachers use peer mentoring is not significantly different from the mean score of children whose teachers do not use peer mentoring.
- iii) Ho<sub>3</sub>: The mean score of preschool children academic performance whose teachers keep teaching journals is not significantly different from the mean score of children whose teachers do not keep teaching journals.
- iv) Ho<sub>4</sub>: The mean score of preschool children academic performance whose teachers use written lesson evaluation questions is not significantly different from the mean score of children whose teachers do not use written evaluation questions.

### **1.5 Significance of the Study**

The study offers insights in pre-school teachers' reflective teaching in Kenya and Molo District in particular. The study would be a reference to teachers who would like to know more about reflective teaching and/or employ aspects of reflective teaching in their practice as a means of improving their effectiveness as practitioners. Improved teaching practice would eventuate into improved children academic performance (Tarkka and Calderhead, 1992).

The study would be of importance to National Centre of Early Childhood Education and District Centre of Early Childhood Education personnel who among other roles are involved in research on preschool children's education, dissemination of such research findings and training of trainers of preschool children (Kipkorir and Njenga, 1997). This study would help in reviewing of the existing training of preschool teacher's curriculum. It would also be a ready local resource whenever need arises. This is because there is need to accumulate and develop a knowledge base addressing local issues in all disciplines, including the processes involved in teaching Kenyan children (Mugenda, 2008).

#### **1.6 Limitations of the Study**

Extraneous factors such as change over time in participants due to biological maturity, illness, attitude, absenteeism, other training in reflective teaching among others were not controlled by the researcher. The researcher however guarded against them by triangulation of data collection and used a highly structured questionnaire because they could affect the internal validity of the results of the study (Kombo and Tromp, 2006).

#### **1.7 Delimitations of the Study**

The study was conducted in pre-schools in Molo District, Kenya. The pre-schools in this District are unique in the measure of interest of this study because most of the children attending them are vulnerable and some are at risk of academic failure.

## **1.8 Basic Assumptions of the Study**

The study assumed that the participants had not received professional training on the use of reflective teaching and/or elements of reflective teaching prior to the study.

The researcher also took that the participants made efforts to use reflective teaching and incorporated elements of reflective teaching as the main tool in teaching children after training.

## **1.9 Definition of Key Terms**

The following section contains explanations of the key terms used in the study:

**Academic Performance**-Preschool children scores in tests and examinations in their respective preschools.

**Child** - A pupil formally enrolled in preschools for the purpose of education.

**Collaborative Teaching**- A strategy of teaching that emphasizes the importance of solving academic problems with peers.

**Influence** - The capacity of preschool teachers' reflective teaching to have effect on the behavior of preschool children in tests and examinations.

**Journal**-A record of events in teaching and learning process.

**Peer mentoring**-A relationship in which a preschool teacher of the same or greater rank or expertise teaches, guides and develops another of the same or lower rank.

**Preschool Teacher-**A teacher working in preschool for the purpose of educating children whether professionally trained or not.

**Reflective Teaching-**it is a process in which a preschool teacher is involved in action research and inside probing as he/she employs collaborative teaching, peer mentoring, journal keeping and written evaluation questions as the main tools in teaching preschool children.

**Written Evaluation Questions-**A tool that encourages critical assessment via the use of questions directed at the teacher's actions during a lesson activity.

### **1.10 Organization of the Study**

This study contains five chapters. The first chapter takes a critical look on the following key areas: background to the study, purpose of the study, research objectives, research hypotheses, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study and definition of key terms. The second chapter is based on sections of literature reviewed, starting with: introduction, nature of reflective teaching, elements of reflective teaching, theoretical framework and conceptual framework.

The third chapter deals with; research design, target population, sampling and sample size, instruments of data collection, validity and reliability of data, procedure for data collection and how the data was analysed. The fourth chapter deals with the findings and discussions of the analysis of the data collected. The final chapter deals with summary, conclusions, recommendations and suggestions for further research.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This section contains two parts. The first part deals with factors influencing academic performance and nature of reflective teaching. The second part deals with theoretical and conceptual framework.

#### 2.1 Factors Influencing Academic Performance

Factors influencing academic performance have been explored by many educational researchers. For example, Eshiwani (1983) found that the factors which significantly caused poor performance in schools were: school resources, class size, textbooks, school management and administration, libraries and laboratory facilities, teacher's characteristics (certification, experience, training, teacher pupil ratio, professional commitment and transfer index) and children traits. Eshiwani (1983) also points to the great importance of school facilities. These facilities included libraries, textbook, dormitories, visual aids, electricity, water, play grounds among others.

Difference in teaching methods has also been cited as a major factor that affects performance. Makau and Somerset (1978) carried out some studies using some rural schools and in Nairobi Province in Kenya and indicated a strong correlation between teaching methods and performance in Kenya Certificate of Primary Education. There was also a strong correlation between quality of administration and students performance. Qualification of teachers has also been identified as a crucial factor

influencing performance. Somerset (1966) noted that school with well qualified teachers tended to be more successful. Bett (1986) noted that teacher's satisfaction influenced students' academic achievement. Reyes and Imber (1992) found that teachers who perceived the workload as unfair tended to have higher level of job dissatisfaction than those who perceived their workload as fair. This dissatisfaction can be perceived to be the cause of poor performance. Dissatisfied teachers do not teach well. Put together, these factors affect learner's academic performance, however the findings did not point out how reflective teaching would affect children performance at pre-school level.

## **2.2 Nature of Reflective Teaching**

Being reflective, according to the New Webster's Comprehensive Dictionary of the English Language (2001) means; considering of or meditating upon past knowledge or experience. Schon (1973) states that being reflective is thinking about an action which may change either the action or knowledge. Additionally, as stated by Fisher (2005), being reflective does not exist in an abstract sense but is enacted through specific practices. For the purpose of this study, the process of reflective teaching is enacted collaborative teaching, peer mentoring, journal keeping and written evaluation questions.

A common feature of reflective teaching is the questioning of one's self; that is ones beliefs, values and assumptions in relation to teaching as stated by Cruickshank (1995). In light of this definition, reflective teaching as purported by Zeichner and Liston (1996) is an approach to teaching, learning and problem solving that uses elements of reflective teaching as the main tool. It involves teachers analysing,

discussing, evaluating, changing and developing their practice and taking responsibility of their professional development.

According to Schon (1987), the notion of being reflective is two-fold for education practitioners. His notion of being reflective-in-action and being reflective-on-action are central to what pre-school teachers do. Being reflective-in-action involves teachers in critical thinking on the spot, 'in the thick of things' about what is being taught and the intended outcome, sometimes having to access, revise and implement new approaches and activities immediately. The practitioners allow him/herself to experience surprise, puzzlement, or confusion in a situation which he finds to be uncertain or unique. The practitioner then reflects on the phenomenon before him/her and on the prior understanding which has been implicit in his/her behavior. He carries out an experiment which serves to generate both new understanding of the phenomenon and a change in the situation.

Schon (1987) further, states that being reflective-on-action practitioners may write up, talk things through with mentors and so on about events that they encounter. The act of being reflective-on-action enables teachers to spend time exploring why they acted as they did, what was happening in a group and so on. In so doing they develop sets of questions about their activities and practice. The notion of repertoire is a key aspect of reflective teaching: Education practitioners build up a collection of images, ideas, examples and actions that they can draw upon. According to Schon (1987) teachers draw upon the process, experiences and understanding generated through being reflective-on-action. In turn things can be left and returned to; as teachers think and act, questions arise that cannot be answered in the present. The

space afforded by recording, supervision and conversation with their peers allows them to approach these. Being reflective requires space in the present and the promise of space in future.

Schon and Argyris (1974) purport that teachers have mental maps with regard to how they act in situations. This involves the way they plan, implement and review their action. Furthermore, they assert that, it is these maps that guide teacher's action rather than the theories they explicitly espouse. Schon and Argyris (1974) suggest that two theories of action are involved: They are those theories that are implicit in what teachers do and those which they call to speak of their action to others. The former can be described as theories-in-use. The words teachers use to convey what they do or what they would like others to think they do are called espoused theories.

Teachers' beliefs are also important in reflective teaching. According to Borg (2001), a belief is a proposition which is held either unconsciously or consciously by a teacher. The individual accepts this proposition as true and serves as a guide to thought and behavior. Marland (1989), Aguirre and Speer (2000) support that beliefs shape and orient teachers' reflections. Borg (2001) points out that a difference between belief and knowledge is that a belief is held to be true by the individual involved, though it may not be absolutely so, while knowledge must actually be true. Joram and Gabriel (1989) however took this further by stating that belief and knowledge can co-exist via the process of being reflective but failed to show how teachers' beliefs can improve preschool children academic performance.

Calderhead (1992) points out that one characteristic of becoming a reflective teacher involves critically examining one's own and other educational beliefs and developing a coherent articulate view of teaching and learning. Richard (undated) points out that teachers' beliefs about teaching form a guide to the way they teach and reflect. Teacher's belief causes them to teach and learn and therefore learn to a particular way of acting and reflecting. These studies however failed to show how they would particularly assist pre-school teachers in their children academic performance in developing countries like Kenya.

Borg (2001) supports that teachers with contemporary beliefs are significantly more likely to have their learners analysing mathematical relationships and working in groups and those with traditional beliefs emphasizing ways of teaching where the teacher transmits information and rules to the learners. He contended that teacher's beliefs influence the kind of activities they include in their teaching and how they reflect, however the study did not pinpoint how children academic performance in preschools in a developing country like Kenya could be improved.

### **2.3 Collaborative Teaching and Reflective Teaching**

John Dewey States that the purpose of a school is to infuse both social and civic skills in children both through world view and the material that is taught to them throughout the course of their education (Carver and Osmon, 2008). In essence, it is the responsibility of the teacher within the school to create a purposeful relationship in which children cooperate in order to achieve a shared outcome (Rubin, 2008). The teacher should further define each child's capacity through effective teaching strategies and assessment so that the child and the teacher as well can see and reflect

on their own performance and capacity. According to Landies (2008), this aspect of teaching can be achieved through training.

In studies done in the United States by Halt, Najee and Schults (2004), collaborative teaching allowed teachers to build their knowledge bases and reflect on and regulate their thinking and behavior as they taught. The results were improved outcomes for the learners. This process allowed children to constantly learn from others and from themselves. Other studies in the United Kingdom have examined collaborative teaching for example, peer tutoring, where a student is paired with another student. The learners' alternate the role of tutor and tutee to learn the provided content (Mastropieri and Scruggs, 2000). Collaborative teaching has also many positive effects in a variety of content areas including:

- a) Reading (Mahtes, Fuchs, Henly and Sanders, 1994).
- b) Spelling (Delquadri, Greenwood, Astretton and Hall, 1983).
- c) Math (Fuchs and Fuchs, 2001).
- d) Science (Mastropieri, and Scruggs, 2005).

Taken together, these studies suggest that collaborative teaching is an effective intervention for teaching a variety of academic content to learners with and without disabilities (Stenhoff and Lignugaris, 2007). These studies however did not state the use of collaborative teaching in preschool teacher's education and its implications to children academic performance in tests and examinations.

Co-operative learning is the use of small students group as teams to accomplish a common goal. This emphasizes positive interdependence, individual and group

accountability, face to face interaction, team skill and group processing (Smith, 1996). In another study done Madison, United States, involving cooperative learning, students were positive about the value of teaching from their own learning ( $m=3.07$  in a scale of 5) (Shri and Irene, 2001). The most important benefit cited was student developing substantial in-depth understanding and expertise in the subject area of their teaching area. Typical comment included “Each student studies in-depth a certain topic area”. And “Opportunity to do more on topic forced me to learn the topic better than if I was just going to be tested on it”. Or “In future you might have to give seminars, teaching or preaching” (Masropieri and Scruggs, 2009).

According to Cole (1997), Coyle (2002) Hyrkas, Tarkka and Illomen (2001) reflective teaching demands teachers to be creative and innovative in classroom situations and school situations in solving problems and this will eventuate into improved learning opportunities to children. Carrying such actions such as collaborative teaching should lead to a deeper understanding of the school context and the development of contextualized knowledge. Though an effective and innovative approach to teaching and learning, use of collaborative teaching in improvement of preschool children’s academic performance was not captured.

Collaborative teaching and learning could also enhance stability of individual nations and global community where children are educated to respect differences and to value peaceful means of resolving conflict (Laundy, 2005). This technique of teaching also acquires enhanced significance in societies which are making transition from violence to peace and in which new democratic processes are being established (Limber, 1999). However the studies did not show how such intervention would lead

to children improving academically in communities faced with tribal conflicts in the developing world like Kenya.

#### **2.4 Peer Mentoring and Reflective Teaching**

Peer mentoring borrows heavily from Vygotsky's (1978) work regarding constructivism. Vygotsky (1978) view development as a social process, whereby one's interaction with another assist with the learning process. This process first occurs as an exchange between two individuals (interpersonal) and is then internalized (intrapersonal). For example, during supervision in teacher education; cooperating teacher and a prospective teacher work together, the expert's role is to help the novice move through the zone of proximal development by providing effective feedback and modeling. Through the social interaction of discussion and modeling, active learning occurs.

Alleman *en al* (1984) defined mentoring as a relationship in which a person of greater rank or expertise teacher guides and develops a novice. Schmidt and Wolf (1980) listed three broad categories—role model, consultant-advisor and sponsor as function of mentoring. Schein (1978) suggested eight mentor roles: teacher confidant, sponsor, opener of doors, role model, and developer of talents, protector and successful leader. A study done in the United States indicated that mentoring is important in teacher's development. For example, Giebelhaus (1999) suggested that peer mentoring should include a framework for selecting and training of observation of teaching but did not specify its applicability in pre-school children academic performance.

The process of peer mentoring according to Head, Reiman and Theissprinthall (1992) includes observation and feedback requiring time from the mentor and the teacher. A mentor should have a model that allows him/her not only to observe but also to frame the observation as development-providing formative feedback. The main feedback from the mentor to the student teacher should include the effectiveness of instructional sequence which encompasses the following: Making instructional goal and procedure clear, making content comprehensible, extending learners thinking, monitoring, and using instructional time effectively.

According to Cunningham (2001) reflective teaching demands that teachers discuss and analyze with others problems they encounter in their classrooms which could eventuate to improved future classroom encounters. According to Reinman (1999) reflective teaching includes indentifying personal meaning and/or significance of a classroom or school situations and this includes the disclosure and examination of personal feelings and this can be enhanced when done in a peer mentoring relationship. However ways in which preschool teachers would improve their children academic performance in tests and examinations using peer mentoring in developing countries like Kenya was not identified.

## **2.5 Journal Keeping and Reflective Teaching**

Wubbles, Bekelman and Hooymer (1992) found that teachers' self-report of their interaction with student correlated well with their self-report and correlated even better with their espoused ideals in an elementary school in Ontario, Canada. A

subsequent study conducted in a similar setting in the United States, found out that students perception of teachers practice and judges rating of teacher-student behavior correlated strongly during whole-class teaching but much less at other times such as, during individual seatwork (Van Tartwijk, Bekelmans and Wubbles, 1998).

According to Burstein (1998) correlation between self-report and practice would be strong if the survey were more specific, for example, by identifying a particular area.

The studies did not however indicate how effective journal keeping would be of value to pre-school teachers working in developing countries like Kenya.

Smithson and Poster (1994) compared teacher's survey with mathematics teaching logs (both teachers self-report) they found the correlation of survey with logs moderately strong  $r=6.5$ . Self-report however, according to D'onefrio (1989) may be distorted by guilt, and ego enhancement and social desirability. Doyle (1997) argues that teaching journals are important in reflective teaching because they aid the teacher to think about his/her attitude, beliefs, assumption and to promote self-evaluation and change.

## **2.6 Written Lesson Evaluation Questions and Reflective Teaching**

Steinberg and James-Reid (1983) point out that evaluation serves the purpose to review and revise student performance measures generated during initial planning.

They argue that observation made during classroom session should be critically accessed via the use of questions. The act of questioning is an integral part of the lesson process evaluation. Rowe (1985) states that lesson evaluation should occur directly after the lesson and in written form. This is a useful suggestion for the greater the time gap between lesson taught and evaluation, the more likely the

teacher will forget what actually happened in the teaching session. Wragg (2000) states that teachers recall less and less of what happened in a class if several days pass. He attributes this to the business of the teacher and thousands of daily incidents which demands teacher attention. However, these studies did not show how the effectiveness of written questions at the end of a lesson or an activity would aid pre-school children academic performance improvement in tests and examinations in developing countries in Africa like Kenya.

In evaluating the lesson, teachers are reminded to assess their work and be able to critically analyze their own action to enhance their ability to grow. The use of questions to get feedback on lesson or an activity is the purpose of evaluation as suggested by James-Reid (1983). According to Ferris and Hedgcock (1998) post lesson evaluation is an integral part of lesson development and not an addendum. Through regular evaluation, the teacher is better able to prepare work with learners needs in mind and will be able to address individual problems when they arise. Moreover the process, if carried out effectively, will eventuate into students' progress and the improvement of teaching and the teacher as a teacher (James-Reid, 1983).

James-Reid (1983) took the idea further, when she states that teachers should be deliberate in planning for evaluation. In the process of planning for purpose, the teacher should decide on the means of measuring the process and outcome and also collect information via observation and careful monitoring of activities. According to Calderhead (1992), through use of written evaluation questions, the preschool teacher would reflect about the lesson they are to implement. This would involve

recalling, considering and assessing their teaching experiences as a means of fostering learners understanding. These studies done in United Kingdom and United States did not however specifically show how this idea would be implemented in pre-school children and whether it would improve children academic performance in developing countries.

## **2.7 Theoretical Framework**

Reflective teaching is based on the theory of constructivism: Where the teacher is involved in great deal of introspection, outside prompting and probing to help learners construct knowledge easily and quickly. The theory looks at the way a learner learns. Constructivists believe that the learner learns best when he/she is actively engaged. The learner is viewed as one who acts on objects and events within his/her environment and in the process gain understanding and derives meaning of the objects and events.

The major contributors of the theory of constructivism include Dewey (1904), Vygotsky (1978), Piaget (1983) and Bruner (1971). Constructivism assumes that cognitive skills are most fully potentiated through active engagement. Knowledge is constructed based on personal experience and hypotheses of the environment.

Learners continuously test these hypotheses through social negotiation. Each person has a different interpretation of a situation and the construction of the knowledge process. The learner is not a black slate (*tubula rasa*), but bring past experiences and cultural factors into a situation.

According to Dewey (1938), education and learning are social and interactive processes, and thus the school itself is a social institution through which social reforms can and should take place. In addition, he believed that learners thrive in an environment where they are allowed to experience and interact with curriculum, and all learners should have the opportunity to take part in their own learning. Dewey makes a strong case for the importance of school not only as a place to gain content knowledge, but also as a place to live. In his eyes, the purpose should not revolve around the acquisition of a pre-determined set of skills, but rather the realization of one's full potential and the ability to use those skills for the greater good. He notes that, to prepare the learners for the future life means to give them, command of themselves. He states that education is a regulation of the process of coming to share in the social consciousness; and that the adjustment of individual activity on the basis of this social consciousness is the only sure method of social reconstruction.

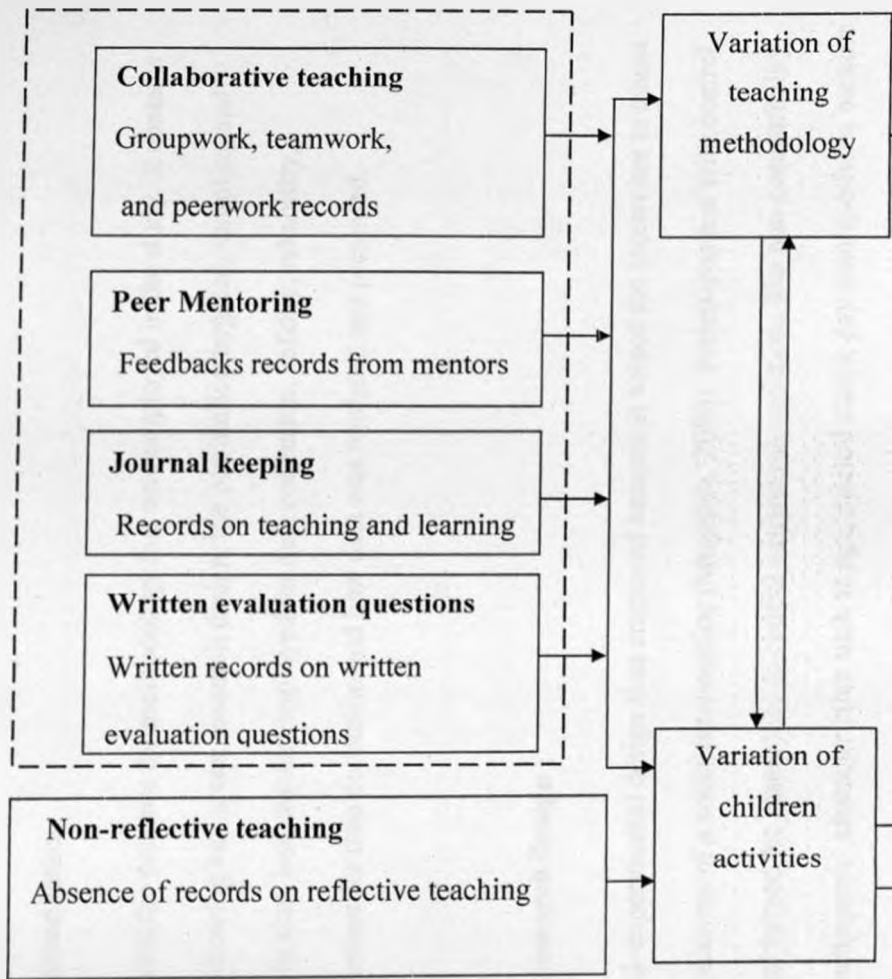
Dewey (1935) advocated for an education structure that strikes a balance between delivering knowledge while taking into account the interest and experience of the learner. According to Bruner (1999) instruction must be commensurate with experiences that make the student willing and able to learn (readiness), instruction must be structured so that it can be easily understood by the learners (spiral organization) and instruction should be designed to facilitate extrapolation (going beyond the information given).

It could be argued that constructivism emphasizes the importance of the world knowledge, belief and skills an individual brings to bear on learning. Viewing the construction of new knowledge as a combination of prior learning matched against

new information and readiness to learn. Since the role of helping children construct knowledge falls on the docket of the teachers, it is imperative that the teacher is adequately prepared to face this task. This can be done by equipping the teacher with tools that will make construction of new knowledge easy and quick. Teaching reflectively by combining the elements of reflective teaching in their duty as a teachers, could be key to successful teaching in children especially children that face various forms of vulnerability.

## **2.8 Conceptual Framework**

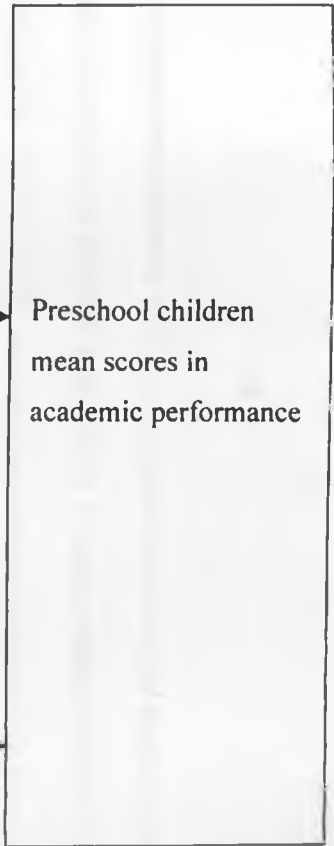
The independent variables in the conceptual framework are the elements of reflective teaching, which are: collaborative teaching, peer mentoring, journal keeping and use of written evaluation questions. The pre-school teacher employs them as the main tool in teaching and learning process. The teacher then gets feedback from preschool children and varies the teaching methods and children activities they engage them in. The effects of these variations are reflected in children mean scores in academic performance. For example, when collaborative teaching is employed, the preschool teacher varies the methodology of teaching (i.e. facilitated discussions and activities among children) and children activities which have an impact on children mean scores in academic performance. When all the elements of reflective teaching are used, variation of teaching methodology and children activities are intensified. The effects of these variations on children mean score in academic performance was therefore measured as the dependent variable. The relationship between the variables is shown in figure 2.1pp. 25.



**Fig.1: Conceptual Framework.**



Preschool children  
mean scores in  
academic performance



## CHAPTER THREE

### RESEARCH METHODOLOGY

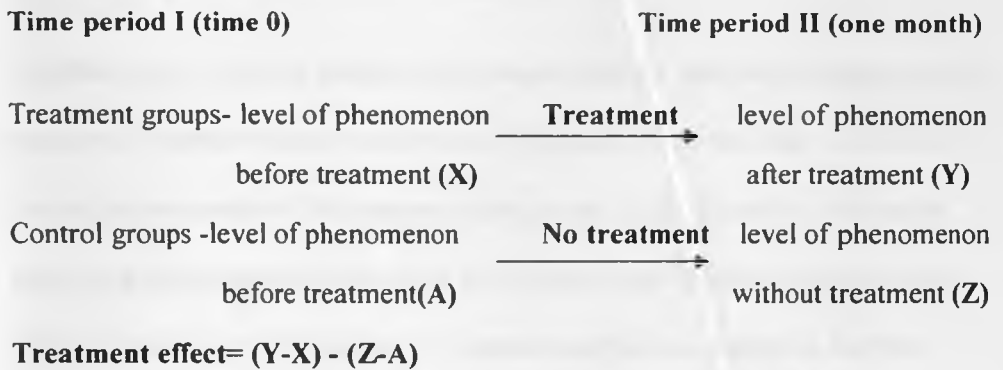
#### 3.0 Introduction

This chapter presents the methodology that was employed in the study. It contains the following key areas: research design, the population targeted, sampling and sample size, instruments employed for data collection, validity, reliability, procedure for data collection and how data was analysed and presented.

#### 3.1 Research Design

Quasi-experimental design was employed because it helped the researcher to assess the outcome of a social intervention (Mugenda, 2008). Pretest-posttest with control model helped the researcher to control extraneous variations like non-compatibility of participants' characteristics such as age, marital status, pay among others, because it was not possible to obtain equivalent groups. In this design, two groups of preschool teachers were obtained from preschools participating in the study. The performance of preschool children was measured at the beginning of the study in both sample groups. The two groups were further divided into five groups; the five groups were then paired. In the first pair, one group was trained on how to use the elements of reflective teaching while the treatment was denied in the other group. In the second pair one group was trained how to use collaborative teaching and the other was not. In the third pair, teachers in one group were trained on how to use peer mentoring and the treatment was denied in the other group. In the fourth pair, one group was trained on how to use and keep teaching journals and the other was not. In the fifth pair one group was trained on how to use written evaluation

questions and the other was not. The dependent variable was measured after one month in both treatment groups and the control groups. The treatment affect was determined by comparing the change in the dependent variable of the control groups from the change in the dependent variable of the treatment groups (Kothari, 2004). This design is shown in figure 3.1.



**Fig 3.1: Pretest-Posttest with Control Model.**

### 3.2 Target Population

The target population was 151 preschools in Molo District, Kenya, of these, 90 are privately owned and 61 are located in government sponsored primary schools (Molo DICECE Annual Report, 2011). Averagely all the preschools in Molo District have rural characteristics and are poorly endowed with teaching/learning resources. They are served by 183 teachers. For the last two decades Molo District residents have sporadically clashed over land issue along tribal lines, especially in the year 1992, 1997 and 2007/08 (Koigi, 2009). This has yielded pre-school children who are vulnerable. This is because conflicts with arms or not, disaster or the breakdown of social or legal order or where local capacity to cope with security is exceeded or inadequate children manifest varies forms of vulnerability in form of stress reactions or beings psychologically wounded (playing less or laughing, being obsessed with

war games, dwelling on revenge or depression) which leads to poor performance in school. These forms of vulnerability can take a long time once the conflicts are over (Save The Children Sweden, 2009).

### **3.3 Sampling Techniques and Sample Size**

Stratified simple random sampling and simple random sampling techniques were employed. Stratified simple random sampling helped the researcher to achieve the desired representation of the two main sub-groups in the population (Mugenda, 2008). All the preschools were put in two separate strata (public preschools and private preschools) and selected. This method assured the researcher that the majority of private preschools which constitute the majority of the population were represented proportionately (Mugenda and Mugenda, 1999). The public and private preschools were assigned numbers and the table of random numbers used to select the desired sample size. Seven public preschools from a total of 61 and 17 private preschools from a total of 91 were randomly selected from the table and constituted the sample size of 24 preschools. According to Borg and Gall (1989) this technique and sample size sufficiently represented the target population by applying the 10% rule of population sampling. Simple random sampling was then used to assign 12 preschools in the experimental group and 12 preschools in the control group. Further, simple random sampling was used to subdivide the experimental group and the control group into five groups each. The five groups in the experimental group were then paired with the five groups in control group. Teachers in the experimental group divisions received training on reflective teaching/elements of reflective teaching while those in the control group divisions did not. The five group pairs measured the stated objectives (Kothari, 2004).

The numbers of preschools from the private and public category that constituted the sample are shown in Table 3.1 below.

**Table 3.1: Number of Preschools in the Sample, Category by Percentage**

Category of Preschools	Number of Preschools	Percentage
Public preschools	7	29.2
Private preschools	17	70.8
<b>Total</b>	<b>24</b>	<b>100</b>

From Table 3.2, it can be observed that 70.8%(n=17) which constitute the majority of the preschools are privately run while 29.2%(n=7) are public preschools. This means public preschools which are the minority (61 out of 151) in the population are proportionately represented in the sample using the 10% rule of population sampling in line with Borg and Gall (1989).

From a total of 24 preschools, 12 were in the treatment group and 12 were in the control group. A total of 285 children were participants; of these, 143 children were in the treatment group and 142 children were in the control group. Two children did not complete the length of the study due to absenteeism. A total of 29 preschool teachers participated in the study. Fifteen school teachers received the treatments (training in reflective teaching/elements of reflective teaching) and 14 preschool teachers were in the control group as shown in Table 3.3.

**Table 3.2: Number of Preschool Teachers in the Treatment and Control Groups, by Percentage**

<b>Samples</b>	<b>Number of Preschool Teachers</b>	<b>Percentage</b>
Treatment group	15	51.7
Control group	14	48.3
<b>Total</b>	<b>29</b>	<b>100</b>

From Table 3.3 it can be observed that teachers in the treatment group and control groups were almost equal, 51.7% (n=29) of the teachers were in the treatment group and 48.3% (n=29) were in the control group.

Preschool teachers varied in their experiences as shown in Table 3.4:

**Table 3.3: Number of Years of Preschool Teachers' Experience by Percentage**

<b>Years of Teaching</b>	<b>Number of Teachers</b>	<b>Percentage</b>
>1	2	7.0
1-4	12	41.3
<5	15	51.7
<b>Total</b>	<b>29</b>	<b>100</b>

Table 3.4 shows that 51.2% (n=29) teachers in the sample had more than five years experience while 41.3% (n=29) had an experience of between one and four years and 7.0% (n=29) had an experience of less than one year.

### **3.4 Research Instruments**

A module based on constructivist theory was developed by the researcher for training preschool teachers in the experimental group. It contained the following areas: Cyclic nature of reflective teaching, how data for reflective teaching is collected, the importance of reflective teaching, challenges that face reflective teachers and elements of reflective teaching based on contents taught in preschools (Appendix II).

A pretest and a posttest were designed by the researcher. The pretest was used to extract information regarding the state of children academic performance at the start of the study. After a month, a posttest was administered to the same children to extract information on the state of children at the end of the study (Kothari, 2004). The pretest and posttest contained different question sets measuring the same concepts. The test areas included languages (English and Swahili), where questions involved reading and writing; Mathematics, where questions included adding and subtracting; and Art and Craft, where questions involved drawing. The three areas were in the same test because teaching in preschool is an integrated approach and no academic area is taught in isolation. Further, these areas involve the academic aspect of learning in preschools (Appendix IV).

Questionnaires were used to solicit information concerning use of reflective/elements of reflective teaching from preschool teachers participating in the study. They issued to teachers in both the treatment and control groups in the study sample. Questionnaires were used because important information of preschool teachers' reflective teaching could not be measured through other ways. For

example, how their beliefs influence reflective teaching practices and their attitudes towards collaborative teaching, peer mentoring, journal keeping and written lesson evaluation questioning techniques (Appendix III).

Documentary analysis was used to collect data concerning use of reflective teaching/elements of reflective teaching by preschool teachers. It contained entries for contents that were documented in areas such as collaborative teaching, use of peer mentors, journal keeping and use of written evaluation questions. Documents that were assessed included lesson plans, schemes of work, teaching journals, mark books and lesson/activity notes (Appendix V).

### **3.5 Validity**

Content validity was assessed from the questionnaires that were issued. Expert judgment was employed as recommended by Borg and Gall (1989). Two lecturers who are specialist in early childhood education confirmed the items contained in the questionnaire measured use of reflective teaching/elements of reflective teaching in type and proportion. Further validity was established by piloting the training module, the preschool tests, the questionnaires and documentary analysis form in four preschools which were not in the study sample; where the clarity of the items in the instruments was assessed by the researcher (Mugenda and Mugenda, 1999). Piloting also enhanced the validity of the results by making the items in the questionnaire and preschool children test clear to the respondents and comprehensive enough to provide the anticipated of data. Piloting also facilitated in establishing whether the objectives were being fulfilled. According to Isaac and Michael (1981), the advantages of a pilot study are that; a pilot study enables the researcher to get

feedback from the research objectives that lead to improvement of the main study, leads to change to some hypotheses, dropping some and developing new ones and increase the chance of obtaining clear cut findings in the study. This was found to be true in this study.

### **3.6 Reliability**

Reliability of the instruments was established during the pilot stage. In the questionnaire, equivalent technique was used to guard against data unreliability. Two questionnaires that measured exactly the same attributes were administered to the respondents within a difference of one week. The estimate of reliability was obtained by computing the correlation between the two scores obtained by the same individual on two interval scales for the same variable. The Reliability Co-efficient whose values vary between 0.00 and + 1.00 was computed. The closer the value to + 1.00 the stronger the congruence measure (Adams and Schraneldt, 1985). The reliability coefficient was found to be 0.925. In the preschool test, test-retest technique was used. The Pearson Product-Moment Correlation Coefficient was computed and was found to be 0.94. This indicated high test-retest reliability.

In the documentary analysis, reliability was established by the researcher collecting recorded contents based on reflective teaching and elements of reflective teaching in preschool teachers journals, notebooks, lesson plans and other documents on issues related to collaborative teaching, peer mentoring, written evaluation, questions and other issues related to reflective teaching. The researcher trained a research assistant to collect the same information. A table of presence and absence of records on reflective/elements of reflective teaching was constructed. The Index of Interrater

Reliability whose values range from -1.00 to +1.00 was computed using the Kappa Statistics in SPSS statistics 17.0 for Windows. The Index of Interrater Reliability (Kappa) of researcher and the research assistant was found to be 0.79. This value indicated substantial agreement between the researcher and the research assistant on records kept by preschool teachers on reflective teaching/elements of reflective teaching (Landis and Koch, 1977).

### **3.7 Procedure for Data Collection**

The researcher sought permission and authority from the National Council for Science and Technology to conduct the study in Molo District, Kenya. A research permit and a letter of permission were granted. The researcher then visited the office of the District Commissioner and District Education Officer Molo District, to inform the office as instructed in the letter.

The researcher then visited the DICECE office to get a list of all preschools in Molo District. After sampling, the researcher personally delivered copies of introductory letter and the pretest for preschool children in the sampled preschools. The researcher also informed the preschool teachers in the treatment group about the coming reflective teaching training and when and where it would be held. The teachers were requested to mark the pretest and record the marks together with the children names. The preschool teachers were also informed of the importance of attending the training by the researcher.

The researcher trained the preschool teachers in the treatment pool on the use and importance of reflective teaching/elements of reflective teaching using the training

module. The participants who learned all the elements of reflective teaching attended a two day training session in plenary, where an overview of reflective teaching was trained in the first day. Elements of reflective teaching were covered on the second day.

The other four groups were trained in the following order: The first group was trained on collaborative teaching in the third day. The second group was trained on how to employ peer mentoring in teaching in the fourth day. The researcher trained how to use teaching journals to the third group on the fifth day. The fourth group was trained how to use written evaluation questions on the sixth day.

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Questionnaires were administered to preschool teachers in the study sample a month after training by the researcher to both groups. They were hand delivered to participants who were expected to read and understand the questions and write down the reply in the space provided for that purpose in the questionnaire. The preschool teachers had to answer the questions on their own (Kothari, 2004). A posttest was administered exactly one month after the pretest to preschool children. The preschool teachers marked the test in their respective schools using a marking scheme prepared by the researcher.

Using documentary analysis forms, the researcher and with the help of a research assistant collected data on use of reflective teaching/elements of reflective teaching in collaborative teaching, peer mentoring, keeping teaching journals, written evaluation questions and other issues related to reflective teaching. The contents

documented by the teachers were, as pointed out by Kothari (2004) indicated the pervasiveness of occurrence of reflective teaching.

### **3.8 Procedures for Data Analysis**

A paired samples t-test was used to test whether there was a significant difference in children means scores at the pretest stage and at the posttest stage in the treatment and the control groups. A paired sample t-test was employed because it is a statistical procedure that examines whether observed differences among samples can be attributed to chance or whether they indicates actual differences among a population sample as opposed to other available statistical procedures (Freud and Simon 1991, P. 357). Further, it was used because two samples were involved and values for each sample were collected twice from each individual of the two samples.

Further, a one-way between factor analysis of variance (ANOVA) was used to test whether the difference in children means scores between the treatment and the control groups were statistically significant. This statistical procedure minimized individual differences as a source of between group differences (Steel and Torrie, 1980). Results of the tested hypotheses catered for the main objective and the specific objectives, which sought to establish whether use of reflective teaching/various elements of reflective teaching by preschool teachers had a statistically significant difference in children's mean scores in classes where they were used and in classes where they were not.

The hypothesis test was made at  $\alpha = 0.05$  level of significance. If the p-value exceeds  $\alpha = 0.05$  the null hypothesis was accepted. When the p-value was equal or less than  $\alpha = 0.05$ , the null hypothesis was rejected. A computer programme SPSS statistic 17.0 (Statistical Packages for Social Science) for Windows was used in analysis of the data collected from children test scores. Data gathered from the documentary analysis forms and questionnaire was manually analysed and was used to give meaning to samples mean score differences in the group pairs under examination. Data representation was tabular and descriptive.

### **3.9 Ethical Considerations**

Ethical issues were considered in the entire research process because of the vulnerability of the children participants (Alderson and Marrow, 2011). The preschool teachers who were the significant adults in the children school life voluntarily consented to take part in the study. The researcher informed the teachers not to disclose the names and any information that could lead to identification of a child participant. This ensured protection, confidentiality and anonymity of the children who took part in the study, without affecting the quality of the results (Powell, 2011).

## CHAPTER FOUR

### FINDINGS AND DISCUSSION

#### 4.0 Introduction

This chapter presents the findings and discussions of the study. The findings of the study are organized under various sub-headings according to research objectives.

#### **4.1 Finding of the first Specific Hypothesis: The mean score of preschool children academic performance whose teachers use collaborative teaching is not significantly different from the mean score of children whose teachers do not use collaborative teaching.**

The researcher sought to establish whether collaborative teaching as an element of reflective teaching, improved children's means score in academic performance in classes where it was used and in classes where it was not. Collaborative teaching is a technique that emphasis the value of solving problems in academics with peers. The technique enables teachers to build a knowledge base and be action researchers as they teach. A pretest and a posttest were administered to children whose teachers' were trained on use of collaborative teaching. The pretest was given before intervention. This group was paired with a control group. A total of 50 children and 6 teachers participated in measuring the hypothesis; of these, 21 children and 3 teachers were in the treatment group and 29 children and 3 teachers were in the control group. Table 4.4 shows the mean scores and standard deviations of the treatment group and the control group.

**Table 4.1: Analysis of Mean Scores for Collaborative Teaching Group and Control Group.**

<b>Groups</b>	<b>Mean</b>	<b>Number</b>	<b>S.D</b>	<b>Error of Mean</b>
Treatment group pretest	39.23	21	12.67	2.76
Treatment group posttest	40.71	21	11.14	2.43
Control group pretest	41.13	29	12.98	2.41
Control group posttest	41.75	29	12.21	2.26

Table 4.1 shows that the pretest mean score of the experimental group before treatment was 39.23, which was less than the posttest mean score of 40.71. Similarly, the posttest mean score of control group was 41.13, which was less than the posttest mean score of 41.75. This means that both groups had higher mean scores at the posttest stage although the experimental group was observed to have a higher mean score difference than the control group at the posttest stage in relation to the pretest stage. This higher mean score difference of the treatment group could be attributed to the use of collaborative teaching employed by teachers in this group.

A paired samples correlations for the treatment and control group was computed to check the degree of relationship between children’s scores at pretest and at posttest stages as shown in table 4.2.

**Table 4.2: Paired Samples Correlations for Collaborative Teaching Group and the Control Group.**

<b>Groups</b>	<b>Correlation Coefficient</b>
Treatment group: pretest and posttest	0.92
Control group: pretest and posttest	0.94

Table 4.2 shows that the paired samples correlation coefficient for collaborative teaching group was 0.92 and for control group was 0.94. This means that there was a higher congruence measure for both groups at pretest stage and at posttest stage (Adams and Schraneldt, 1985). Children who had high scores at pretest stage also scored highly at the posttest stage as shown in table 4.2.

A paired samples t-test for the treatment and control groups was computed to establish whether there existed significant differences between pretest and posttest mean scores of children in both groups. The findings are shown in Table 4.3:

**Table 4.3: Analysis of a Paired Samples t-test for Collaborative Teaching Group and Control Group**

<b>Groups</b>	<b>Mean Diff.</b>	<b>S.D</b>	<b>Error of Mean</b>	<b>t</b>	<b>d.f</b>	<b>p-value</b>
Treatment posttest-pretest	1.47	3.35	0.72	2.016	20	0.06
Control posttest-pretest	0.62	2.82	0.52	1.185	28	0.24

Table 4.3 shows that a paired samples t-test did not reveal a statistically reliable difference between the mean scores of treatment group at posttest stage ( $m=40.71$ ,  $S.D=11.14$ ) and at pretest stage ( $m=39.23$ ,  $S.D=12.67$ ),  $t(20)=2.016$ ,  $p=0.06$ ,  $\alpha=0.05$ ; and also in the control group mean scores at posttest stage ( $m=41.75$ ,  $S.D=12.21$ ) and at pretest stage ( $m=41.13$ ,  $S.D=12.98$ ),  $t(28)=1.185$ ,  $p=0.24$ ,  $\alpha=0.05$ . The findings suggest that collaborative teaching does not have a statistically significant difference in children's mean scores in classes where teachers use it and also in classes where they do not.

From Table 4.3, the mean score difference between the posttest and pretest was 1.47 for treatment group and the mean score difference between the posttest and pretest scores for control group was 0.62. These findings seem to suggest that collaborative teaching enhanced children knowledge acquisition in a variety of content areas including reading (languages) and mathematics in line with the findings of Mastropieri and Scruggs (2005) and Fuchs and Fuchs (2001) who observed children improvement in mathematics and in general science when collaborative was employed. It also corroborates the findings of Stenhoff and Lignugaris (2007) which suggests that collaborative teaching is an effective intervention for teaching a variety of academic contents to learners with and without disability. This is because it makes the teacher a keen in the process of teaching by facilitating the children as they learn from one another (Tarkka and Illomen, 2001). It could further be argued that collaborative teaching facilitate comprehension of academic contents in children facing various forms of vulnerability based on the marginal mean score increase of the treatment group which was 0.85 compared to the control group at posttest stage.

Further, teachers' responses from questionnaires in the treatment group are shown in Table 4.4. The researcher was concerned with items number 4, 6 and 14 (Appendix III) from collaborative teaching group to facilitate in making meaning of the mean scores difference at the pretest stage and at posttest stage in the treatment and the control group.

**Table 4.4: Analysis of Awareness of Collaborative Teaching Techniques in the Treatment Group**

Use of Collaborative Teaching	Response		
	Agree	Disagree	Total
Most of the time I try new tactics in case of children difficulties	2	1	3
I usually ask children to work in groups and I oversee what is happening	3	0	3
I usually ask the children to teach themselves and I oversee what is happening	2	1	3

Table 4.4 shows that more teachers in the treatment group used collaborative teaching. This was done through letting children learn in groups by alternating the roles of tutors and tutees to learn a provided content with the facilitation of the teacher (Appendix II). This is in line with suggestion of Mastropieri and Scruggs (2000) that collaborative teaching should involve peer tutoring where a learner is paired with another in performance of academic tasks. Put together, the magnitude of agreement by the teachers could have had an impact on children academic performance in the treatment group as indicated by their higher mean score difference as compared with the control group. Further, the results show that this

technique led children to understand better methods of solving academic problems in class when they worked as a community as shown in Table 4.1.

It could be argued that pairing up tutees and tutors and facilitating children to work in groups, the teachers needed to be creative and innovation in their classrooms as suggested by Cole (1997), Coyle (2002) Hyrkas, Tarkka and Illoman (2001) who held that collaborative teaching requires the teacher to think critically and devise new methods in helping children solve problems in school situations. The findings are also in line with Dewey (1938) about education and learning; where he regarded both as social and interactive process and that the school itself is a social institution where all learners should have opportunity to take part in their own learning. From the finding of this study, collaborative teaching is effective in improving children academic performance in societies emerging from conflict in Molo District Kenya as reflected by the intensity of use in Table 4.4 and improvement in children mean score as indicated in Table 4.1.

Teachers' responses from the questionnaires in control group are shown in table 4.5. The researcher was concerned with responses from items number 4, 6 and 14 (Appendix III) from the teachers.

**Table 4.5: Analysis of Awareness of Collaborative Teaching Techniques in the Control Group of Collaborative Teaching Group**

Use of Collaborative Teaching	Response		
	Agree	Disagree	Total
Most of the time I try new tactics in case of children difficulties	1	2	3
I usually ask children to work in groups and I oversee what is happening	1	2	3
I usually ask the children to teach themselves and I oversee what is happening	3	0	3

As shown in Table 4.5, teachers in the control group mostly disagreed on the use of collaborative teaching. They could have not emphasise key aspects of knowledge construction including individual accountability, group accountability, team skills and group processing as reported by Smith (1996). This can be observed in the smaller mean difference of 0.62 in their children academic performance at pretest stage and posttest compared with the treatment group of 1.47 where collaborative teaching was employed. It could further be suggested that lack of use of collaborative teaching could lead to low academic content comprehension in vulnerable children and children at risk of academic failure due to political and/or social conflict because the teachers concerned were neither oriented nor trained on the value of collaborative teaching.

Documentary analysis was carried out in the collaborative teaching experimental group. Table 4.6 shows the items that were recorded by this group.

**Table 4.6: Analysis of Records Kept by Collaborative Teaching Group**

<b>Records on Collaborative Teaching</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>
Availability of records indicating use of tutors and tutees in teachers' lesson plans	2	3
Availability of records indicating use of group work or teamwork in teachers notes	2	3

From table 4.6, it is evident that teachers in this group had records indicating the use of collaborative teaching. The records analysed were found in teachers' notebooks, schemes of work and lessons plans. These records showed use of groupwork, pairing of children during learning and teamwork. Presence of these records fulfilled the researcher's curiosity whether collaborative teaching was actually used by this group. Further it indicated that the teachers concerned were receptive to the new techniques. It also fostered growth in academics and respect for individual differences among the children based on the fact that tutors and tutees were selected on abilities and capabilities in learning activities (Appendix II).

Records from the control group were also analysed. The results are as shown in Table 4.7.

#### 4.7: Analysis of Records kept by Control Group of the Collaborative Teaching Group

Records on Collaborative Teaching	Number of Teachers	Available Teachers
Availability of records indicating use of tutors and tutees in teachers' lesson plans	0	3
Availability of records indicating use of group work or team work in teachers notes	1	3

From Table 4.7, it can be observed that only one teacher kept records for an aspect of collaborative teaching among the teachers in this group in the documents analysed by the researcher. Use of collaborative teaching in this group was almost absent. This means that the teachers in this group had little or no knowledge on collaborative teaching objectives and techniques. Failure to have this important technique was reflected by their children lower mean score at posttest stage by 0.85 in this group compared to the treatment group. It could be argued that failure to use collaborative teaching children, could be detrimental in children academic growth especially those that are vulnerable or at risk of academic failure especially in societies that are making transition from violence to peace and where new democratic processes are being established (Limber, 1999).

A one-way between factor ANOVA was computed to determine whether there was a significant difference between the treatment group and the control group in children mean scores as shown in Table 4.8.

**Table 4.8: ANOVA for Collaborative Teaching Group and the Control Group**

Parameter	Sum of Squares	d.f	Mean Squares	F	Sig
Between Groups	4.457	1	4.457	0.955	0.335
Within Groups	336.066	48	7.001		
Total	340.523	49			

Table 4.8 shows that a one- way between factor ANOVA yielded no significant difference between the treatment group and the control group in children mean scores,  $F(1, 48)=0.955, p>0.05$ . The hypothesis that the mean score of preschool children whose teachers use collaborative teaching is not significantly different from the mean scores of children whose teachers do not use collaborative teaching is accepted.

**4.2. Findings of the Second Specific Hypothesis: The mean score of preschool children academic performance whose teachers use peer mentoring is not significantly different from the mean score of children whose teachers do not use peer mentoring.**

The researcher sought to establish whether peer mentoring as an element of reflective teaching, improved children's mean scores in academic performance in classes where teachers used it and in classes where it is not. Peer mentoring is a technique that emphasis the value of a preschool teacher of the same or greater rank or expertise to teach, guide and develop another of the same or lower rank. A pretest and a posttest were administered to children whose teachers' were trained on the use and techniques of peer mentoring. The pretest was given before intervention. This

group was paired with a control group. A total of 43 children and 4 teachers took part in measuring the hypothesis; of these, 20 children and 2 teachers were in the treatment group and 23 children and 2 teachers were in the control group. Table 4.8 shows the mean scores of the treatment group and the control group.

**Table 4.9: Analysis of Mean Scores for Peer Mentoring Group and the Control Group**

<b>Groups</b>	<b>Mean</b>	<b>Number</b>	<b>S.D</b>	<b>Error of Mean</b>
Treatment group pretest	38.60	20	13.07	2.93
Treatment group posttest	39.45	20	13.98	3.12
Control group pretest	38.23	23	13.95	2.90
Control group posttest	38.91	23	14.59	3.04

Table 4.9 shows that the pretest mean score of the experimental group before treatment was 38.60, which was less than the posttest mean score of 39.45.

Similarly, the pretests mean score of control group was 38.23, which was less than the posttest mean score of 38.91. This means that both groups had higher mean scores at the posttest stage although the experimental group was observed to have a higher mean score than the control group at posttest stage. This higher mean score could be attributed to use of peer mentors in the teaching processes by teachers in the treatment group compared with the control group.

A paired samples correlation was computed to check the level of congruence between children scores at pretest stage and posttest stage in the treatment group and control group as shown in Table 4.10.

**Table 4.10: Paired Samples Correlations for Peer Mentoring Group and the Control Group.**

<b>Groups</b>	<b>Correlation Coefficient</b>
Treatment group: pretest and posttest	0.92
Control group: pretest and posttest	0.95

Table 4.10 shows that paired samples correlation coefficient for peer mentoring group was 0.92 and for control group was 0.95. This means that in both groups there is a high degree of correlation between the two sets of scores at the pretest stage and posttest stage in both groups. A child who scored lowly at pretest stage also scored lowly at posttest, even if every child improved.

A paired samples t-test was computed to establish whether there existed significant differences in pretest and posttest mean scores of children's academic performance in both groups. The findings are shown in Table 4.11.

**Table 4.11: Analysis of a Paired Samples t-test for Peer Mentoring Group and Control Group**

<b>Groups</b>	<b>Mean Diff</b>	<b>S.D</b>	<b>Error of Mean</b>	<b>t</b>	<b>d.f</b>	<b>p-value</b>
Treatment posttest-pretest	0.85	1.85	0.41	2.06	19	0.056
Control posttest-pretest	0.69	2.9	0.62	1.11	22	0.273

Table 4.11 shows that a paired samples t-test did not reveal a statistically significant difference between the mean scores of the treatment group at posttest stage

( $m=39.45$ ,  $S.D=13.98$ ) and at pretest stage ( $m= 38.60$ ,  $S.D= 13.07$ ),  $t (19) = 2.062$ ,  $p = 0.056$ ,  $\alpha = 0.05$  and also in control group mean scores at posttest stage ( $m = 38.91$ ,  $S.D = 14.59$ ) and at pretest stage ( $m=38.23$ ,  $S.D=13.95$ ),  $t (22) =1.11$   $p= 0.277$ ,  $\alpha = 0.05$ . The results suggest that use of peer mentors does not have a significant difference in children's mean scores in classes where teachers use them and in classes where they do not.

From the table 4.11, the mean scores difference between the pretest and posttest was 0.85 for treatment group and the mean scores difference between the pretest and posttest for control group was 0.61. This finding suggests that use of peer mentors by the teachers during teaching enhanced delivery of academic content being taught. The children were able to comprehend better academic tasks at hand and this translated to a larger improvement of their mean score at posttest in the treatment group compared with the control group. This findings are in agreement with Cunningham (2001) that reflective teaching (which includes use of mentors) demands that teachers discuss and analyze with others the problems they encounter in their classroom which could translate to improved future classroom encounters. By discussing with others the teachers were able to better themselves as teachers. Further, teachers could be able to identify their strengths and weaknesses in content delivery and being action researchers, mitigate against their own weaknesses and boost their strengths.

It is also in line with the views of Vygotsky (1978) that development (as a teacher) is a social process whereby one's interaction with another assists with the teacher's growth process. It could further be argued that peer mentoring is effective in mitigating academic problems and solving classroom academic puzzles in children

who are vulnerable and in communities emerging from conflicts. This because a teacher solves these problems as a community of teachers by gathering views and opinions from his/her peer mentors. The teacher is then able to asses them (puzzles and problems) and test what would work as hypotheses; discarding some and pick a new. These findings also in line with Reinman (1999) advocacy that teaching includes indentifying personal meaning and/or significance of a classroom or school situation and this includes the disclosure and examination of personal feelings.

Further, teachers' response from the questionnaires in treatment group is shown in Table 4.12. The researcher was concerned with item number 2 (Appendix III) from peer mentoring group to facilitate in making meaning of the mean scores difference at the pretest stage and at posttest stage in the treatment and the control group.

**Table 4.12: Analysis of Awareness of Peer Mentoring in the Treatment Group**

Use of Mentors	Response		
	Agree	Disagree	Total
Sometimes I call a senior teacher to oversee how I teach	2	0	2

Table 4.12 shows that the teachers in the group were in agreement on the use of mentors. This is important because it means that the teachers were receptive to this technique of teaching. They were able to see the advantage of using mentors for their own growth as teacher and the positive academic behavior change they observed in their children as supported by the findings, where the treatment group mean score difference was larger by 0.16 compared to control group mean score difference.

Teachers' response from the questionnaires in control group is shown in Table 4.13. The researcher was concerned with item number 2 (Appendix III).

**4.13: Analysis of Awareness of Peer Mentoring in the Control Group of Mentoring Group.**

Use of Peer Mentors	Response		
	Agree	Disagree	Total
Sometimes I call a senior teacher to oversee how I teach	0	2	2

Table 4.13 shows that teachers in the control group were in disagreement on the use of mentors at any time during teaching. Based on these findings it could be argued that these teachers lacked a feedback mechanism on their daily routine of teaching children. This could lead to weaknesses on the part of the teachers to go unnoticed. It could also lead to some of the weaknesses being reinforced by situations and happenings in the classroom. These findings concur with Head, Reiman and Theissprinthall (1992) who suggests that a teacher should have a model that allows him/her to observe and frame the observation for personal growth which could eventuate to better delivery of a variety of academic contents. Failure of these teachers to use peer mentors could be suggested as the cause of children lower mean scores in this group comparison with teacher who used mentors regularly.

Documentary analysis was used to find out whether the teachers in the treatment group kept records on the feedbacks they received from their mentors. The

researcher also sought to find out the comments the teachers highlighted in those documents. Table 4:14 shows the records kept by the treatment group.

**Table 4.14: Analysis of Records Kept by Teachers in the Peer Mentoring Group**

<b>Records on Use of Peer Mentors</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>
Availability of records showing feedback remarks from mentors	2	3

Table 4.14 shows that the treatment group recorded feedback from their peer mentors in their note books. They also schemed on when to invite a mentor. Most of the content indicated the teachers’ strength in various academic areas. One of the teachers wrote:

*Good class control during art and craft.* Another teacher wrote: *Impressive mastery of syllabi connections and pronunciation.* These teachers were therefore able to identify their strengths and weaknesses. However they only recorded their strengths, which according to D’onefrio (1989), may be distorted by guilt, ego enhancement and social desirability.

The findings of the documentary analysis for the control group are shown in Table 4.15.

**Table 4.15: Analysis of Records Kept by the Control Group of the Peer Mentoring Group**

<b>Records on Use of Peer Mentors</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>
Availability of records showing feedback remarks from mentors	0	2

Table 4.15 shows that no teacher in this group recorded any issue to do with mentoring. It can be suggested that these teachers lacked an important tool in teaching. This could explain the smaller mean score difference obtained by children in this group at pretest stage and at posttest stage of 0.69 as compared to the treatment group of 0.85 as shown in Table 4.11. A one-way between factor ANOVA was computed to determine whether there was a significant difference between the treatment group and the control group in children mean scores as shown in Table 4.16.

**Table 4.16: ANOVA for Peer Mentoring Group and the Control Group**

Parameter	Sum of Squares	d.f	Mean Squares	F	Sig
Between Groups	5.340	1	5.340	0.957	0.334
Within Groups	261.420	41	6.374		
Total	266.760	42			

Table 4.16 shows that a one way between factor ANOVA yielded no significant difference between the treatment group and the control group in children mean scores,  $F(1, 41)=0.957, p>0.05$ . The hypothesis that the mean score of preschool children whose teachers use peer mentoring is not significantly different from the mean scores of children whose teachers do not use peer mentoring is accepted.

**4.3 Findings of the Third Specific Hypothesis: The mean score of preschool children academic performance whose teachers keep teaching journals is not significantly different from the mean score of children whose teachers do not keep teaching journals.**

The researcher sought to find out whether teaching by use of teaching journals as an element of reflective teaching improved children's mean scores in academic performance in classes where teachers used it and in classes where they did not.

Journal keeping is a technique of teaching where the teacher records systematically events that occur in teaching and learning process. A pretest and posttest were administered to children whose teachers' were trained on use of teaching journals.

The pretest was issued before the intervention. This group was paired with a control group. A total of 36 children and four teachers participated in measuring the hypothesis; of these, 18 children and 2 teachers were in the treatment group. The same number of children and teachers were in the control group. Table 4.15 shows the mean scores and standards deviations of the treatment and control groups

**Table 4.17: Analysis of Mean Scores of Journal Keeping Group and Control Group**

<b>Groups</b>	<b>Mean</b>	<b>Number</b>	<b>S.D</b>	<b>Error of Mean</b>
Treatment group pretest	42.88	18	12.28	2.89
Treatment group posttest	43.88	18	11.96	2.89
Control group pretest	40.61	18	13.95	3.32
Control group posttest	41.11	18	12.95	3.05

Table 4.17 shows that the pretest mean score of the experimental group before treatment was 42.88 which was less than the posttest mean score of 43.88. Similarly, the pretests mean score of control group was 40.61, which was less than the posttest mean score of 41.11. This means that both groups had higher mean scores at the posttest stage although the experimental group was observed to have a higher mean score than the control group at the posttest stage. This higher mean score could be

attributed to teaching by use of teaching journals in the treatment group compared to the control group which did not use.

A paired samples correlation for treatment and control group was computed to check the level of congruence between the children's scores at the pretest stage and at posttest stage as shown in Table 4.18:

**Table 4.18: Analysis of Paired Samples Correlations of Journal Keeping Group and Control Group**

<b>Groups</b>	<b>Correlation Coefficient</b>
Treatment group: pretest and posttest	0.90
Control group: pretest and posttest	0.97

Table 4.18 shows that a paired samples correlation coefficient for journal keeping teaching group was 0.90 and for control group was 0.97. This means that children who had high scores at the pretest stage had one of the highest scores at the posttest stage. However, the sample correlation coefficient of the treatment group was slightly lower; indicating intervention and this could be attributed to the treatment given.

A paired samples t-test for treatment and control group was computed to establish whether there existed significant differences in pretest and posttest mean scores of children in treatment and control group. The findings are shown in Table 4.19.

**Table 4.19: Analysis of a Paired Samples t-test for Journal Keeping Group and the Control Group**

Groups	Mean Diff.	S.D	Error of Mean	t	d.f	p-value
Treatment posttest-pretest	1.00	2.35	0.55	1.80	17	0.089
Control posttest-pretest	0.50	1.97	0.46	1.07	17	0.298

Table 4.19 shows that a paired samples t-test did not reveal a statistically significant difference between the mean scores of treatment group at posttest stage ( $m = 43.88$ ,  $S.D = 11.96$ ) and at pretest ( $m = 42.88$ ,  $S.D = 12.28$ ),  $t(17) = 1.073$ ,  $p = 0.089$ ,  $\alpha = 0.05$  and in the control group mean scores at posttest ( $m = 41.11$ ,  $S.D = 12.95$ ) and at pretest ( $m = 40.61$ ,  $S.D = 13.95$ ),  $t(17) = 1.073$ ,  $p = 0.29$ ,  $\alpha = 0.05$ .

From table 4.19, it can be observed that the mean scores difference between the pretest and posttest was 1.00 for treatment group and the pretest and posttest mean score difference was 0.5 for control group. This means that in comparison with the control group, the treatment performed better. This could be attributed to the use of teaching journals by teachers in this group. These findings are in line with the findings of Doyle (1997) who suggests that teaching journals are important in teaching because they aid the teacher to think about his/her attributes, beliefs, assumptions and to promote self-evaluation and change. It could further be argued that use of teaching journals aids the teacher to reflect on his/her previous experiences in class and find out ways of becoming a better teacher by trying out new strategies, ideas and seeking alternatives. This inside probing by the help of a

teaching journal can be argued to enhance delivery of academic contents in children especially those that face various forms of vulnerability based on the higher mean score obtained by children in the treatment group compared to the control as indicated in Table 4.19.

Teachers' responses from the questionnaire in the treatment group are shown in Table 4.20. The researcher was concerned with items number 1 and 15 (Appendix III) from the journal keeping group to facilitate in making meaning of the mean scores difference at the pretest stage and at posttest stage in the treatment and the control group.

**Table 4.20: Analysis of Awareness of Journal Keeping in the Treatment Group**

Keeping Teaching Journals	Response		
	Agree	Disagree	Total
I usually keep a journal and record happenings in my classes	2	0	2
I have never recorded a lesson in my entire career	0	2	2

Table 4.20 shows that teachers in this group were in agreement on keeping and use of teaching journals. This included recording happenings in their classes, including records of children with serious difficulties in academics. This could have facilitated the teachers to think critically and question their mode of academic content delivery as observed by Elder and Parl (1994) that a journal is a tool of self evaluation and dynamic alteration of content delivery to suit learner's needs. It could be further

argued that a teaching journal helped the teachers to keep track of the children with serious academic difficulties and at risk of academic failure. The teachers therefore sought out other alternatives of teaching to mitigate against such children's problems. It is through those teachers' action research that it could be suggested that the results of children mean score in this group improved as compared to the control group as indicated in Table 4.19.

Teacher responses from the questionnaires in the control group are indicated in the Table 4.21.

**Table 4.21: Analysis of Awareness of Journal Keeping in the Control Group of Journal Keeping Group**

Keeping Teaching Journals	Response		
	Agree	Disagree	Total
I usually keep a journal and record happenings in my classes	0	2	2
I have never recorded a lesson in my entire career	2	0	2

It is clear from Table 4.21 that none of the teachers in the control group kept a teaching journal. Further none of the teachers in this group ever recorded a lesson in their entire career. These teachers therefore failed to monitor their own teaching process and more so in children with various forms of vulnerabilities. This could have lead to lower critical analysis of their own actions and lower critical analysis of children's problems in the classroom and conversely lower academic mean scores as compared with the treatment group as indicated in Table 4.17.

Documentary analysis forms were used to get more information on the use of teaching journals in both groups. Documents contents assessed by the researcher are shown in Table 4.22 from the treatment group.

**Table 4.22: Analysis of Records Kept by the Journal Keeping group**

<b>Records of Journal Keeping</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>
Availability of a teaching journal	2	2
Availability of academic records in the journal	2	2

Table 4.22 shows that the teachers in this group kept teaching journals and recorded academic happening in their classes. Availability of teaching journals and records in the journals confirmed use of teaching journals in line with the findings of Tautwijk, Bekelmans and Wubbles (1998) that self reports (recorded in teacher’s logs) and practice have a strong correlation. This was exemplified by the children in this group having a larger mean score difference of 1.00 as compared to the mean score difference from control group of 0.5.

Records obtained from teachers in the control group are as shown in Table 4.23:

**Table 4.23: Analysis of Records kept on Journal keeping in the Control Group of the Journal Keeping Group**

<b>Records of Journal Keeping</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>
Availability of a teaching journal	0	2
Availability of academic records in the journal	0	2

Table 4.23 shows that teachers in this group had no teaching journals and conversely they had no records of happenings in their classes. It can be argued that lack of keeping track of the happenings in classes and failure to identify children who had academic problems or were at risk of academic failure could explain this group lower mean score compared to the treatment group as supported by the findings in Table 4.19.

A one-way between factor ANOVA was computed to determine whether there was a significant difference between the treatment group and the control group in children mean scores as shown in Table 4.20.

**Table 4.24: ANOVA for Journal Keeping Group and the Control Group**

Parameter	Sum of Squares	d.f	Mean Squares	F	Sig
Between Groups	3.8778	1	3.8778	2.502	0.125
Within Groups	254.3129	35	7.4804		
Total	258.1907	36			

Table 4.24 shows that a one way between factor ANOVA yielded no significant difference between the treatment group and the control group in children mean scores,  $F(1, 35)=2.502, p>0.05$ . The hypothesis that the mean score of preschool children whose teachers use journal keeping is not significantly different from the mean scores of children whose teachers do not use journal keeping is accepted.

**4.4 Findings of the Fourth Specific Hypothesis: The mean score of preschool children academic performance whose teachers use written evaluation questions is not significantly different from the mean score of children whose teachers do not use written evaluation questions.**

The researcher set to establish whether written evaluation questions as an element of reflective teaching, improved children’s mean scores in academic performance in class where it was used and in classes where it was not. Written evaluation questions facilitate critical assessment via use of questions directed at the teacher’s action during lesson implementation. A pretest and a posttest were administered to children whose teachers were trained on the use of written evaluation questions. The pretest was administered before intervention. This group was paired with a control group. A total of 53 children and 4 teachers took part in this study; of these, 27 children and 2 teachers were in the experimental group and 26 children with 2 teachers were in the control group. Table 4.22 shows the mean scores and standard deviations of the treatment and control group.

**Table 4.25: Mean Scores for Written Evaluation Questions’ Group and the Control Group**

<b>Groups</b>	<b>Mean</b>	<b>Number</b>	<b>S.D</b>	<b>Error of Mean</b>
Treatment group pretest	40.92	27	12.26	2.36
Treatment group posttest	42.94	27	12.47	2.40
Control group pretest	41.73	26	12.18	2.38
Control group posttest	42.65	26	12.47	2.25

Table 4.25 shows that the pretest mean score of the experimental group before treatment was 40.92 which was less than the posttest mean score of 42.94. Similarly, the pretest mean score of control group was 41.73 which was less than the posttest mean score of 42.65. This shows that both groups had higher mean scores at the posttest stage although, the experimental group was observed to have a higher mean score than the control group. The higher mean score of the treatment group could be attributed to the use of written evaluation questions by the teachers in this group compared to the control group.

A paired samples correlation was computed to check the level of congruence in children's score at pretest stage and at posttest stage in the treatment group and control group as shown in Table 4.26.

**Table 4.26: Analysis of Paired Samples Correlations for Written Evaluation Questions' and Control Group**

<b>Groups</b>	<b>Correlation Coefficient</b>
Treatment group: pretest and posttest	0.92
Control group: pretest and posttest	0.94

Table 4.26 shows that the paired samples correlation coefficient from the treatment group was 0.92 and for control group was 0.94. This means that lower scorers at pretest stage were also lower scorers at posttest stage in both groups.

A paired samples t-test was computed to establish whether the mean score difference in the treatment group and control group were statistically significant as shown in Table 4.27.

**Table 4.27: Analysis of a Paired Samples t-test for Written Evaluation**

**Questions' Group and the Control Group**

Groups	Mean Diff.	S.D	Error of Mean	t	d.f	p-value
Treatment posttest-pretest	1.81	4.88	0.93	1.931	26	0.065
Control posttest-pretest	0.92	2.75	0.54	1.708	25	0.101

Table 4.27 shows that a paired samples t-test did not reveal statistically significant difference between the mean scores difference of the treatment group at the posttest stage ( $m = 42.94, S.D = 12.47$ ) and at pretest ( $m = 40.92, S.D = 12.26$ ),  $t(26) = 1.93$   $p = 0.065$ ,  $\alpha = 0.05$  and in the control group mean scores at posttest stage ( $m = 42.65, S.D = 12.47$ ) and at pretest stage ( $m = 41.73, S.D = 12.18$ ),  $t(25) = 1.708, p = 0.101$   $\alpha = 0.05$ .

From the Table 4.27, it can be observed that the mean scores difference between the pretest and posttest was 1.81 for treatment group and the pretest and posttest mean scores difference for control was 0.92. The higher mean score difference in the treatment group can be attributed to use of written evaluation questions as compared to the control group. These findings are in line with the findings of Ferris and Hedgcock (1998) that post lesson evaluation questions is an integral part of lesson development and not an addendum because the teacher is better placed to work with learners needs in mind and address individual problems when they arise. It is also corroborates James Reid (1983) suggestions that if the process of questioning is carried out effectively, it would eventuate to children progress in academics. Further, James Reid (1983) suggests that it could lead to the improvement of teaching and the teacher as a teacher. From these findings, the teachers in the treatment group were

able to identify both their strengths and weakness during delivery of content based on the responses of the learners at the end of the lesson. They were also able to identify the strengths and weaknesses of their learners and therefore through action research, mitigate against both their weaknesses and the problems of the learners (Appendix II). This technique seems to have had an impact on children who were vulnerable and improvement of their academic performance was noted as indicate in Table 4.27.

Teachers' responses from the questionnaires in the treatment group are as shown in table 4.28. The researcher was concerned with items number 5 and 12 (Appendix III) from the written evaluation group to facilitate in making meaning of the mean scores difference at the pretest stage and at posttest stage in the treatment and the control group.

**Table 4.28: Analysis of Awareness of Written Evaluation Questions Technique in the Treatment Group**

Use of Written Evaluation Questions	Response		
	Agree	Disagree	Total
I do not write questions to ask at the end of the lesson	0	2	2
I do not question myself on the way			
I ask questions at the end of a lesson	1	1	2

Table 4.28 shows that teachers in this group mostly agreed on the use of written evaluation questions at the end of the lesson except that they differed on whether

they questioned themselves on how they asked the questions at the end of the lesson. These findings are in agreement with Rowe (1985) that lesson evaluation should occur directly after the lesson and in written form. This is because the greater the time gap between the lesson taught and evaluation, the more likely the teacher is likely to forget what actually happened during the teaching session. The strength of awareness of the importance of written evaluation questions, could explain the higher mean score of the children in this group as compared to the control group.

Teachers' responses from the questionnaires in the control group of the written evaluation questions are as shown in the table 4.29.

**Table 4.29: Analysis of Awareness of Written Evaluation Questions Technique in the Control Group of Written Evaluation Questions' Group**

Use of Written Evaluation Questions	Response		
	Agree	Disagree	Total
I do not write questions to ask at the end of the lesson	2	0	2
I do not question myself on the way I ask questions at the end of a lesson	1	1	2

Table 4.29 shows that teachers in this group mostly disagreed on the use of written evaluation questions. Failure to use written evaluation question could have lead to lower children's mean scores in academic performance. This is in line with the suggestion of Calderhead (1992) that failure to use written evaluation questions leads to failure by teachers be reflective about the lesson they are to implement.

They recall less, assess less their teaching experiences and fail to foster learners understanding as compared to teachers who use written evaluation questions.

Records collected through documentary analysis from the treatment group are as shown in table 4.30.

**Table 4.30: Analysis of Records Kept on Use of Written Evaluation Questions in the Treatment Group**

Written Evaluation Questions	Number of Teachers	Available Teachers
Availability of records showing written evaluation questions	2	2

Table 4.30 shows that teachers in the treatment group recorded lesson evaluation questions in their note books and lesson plans. This was a signal for actual use of written evaluation questions. It could also explain the higher mean score difference obtained by this group as compared with the control group as supported by the findings in Table 4.27.

Records of teachers in the control group were also analyzed as shown in the Table 4.31.

**Table 4.31: Analysis of Records Kept on Use of Written Evaluation Questions by the Control Group of Written Evaluation Questions' group**

Written Evaluation Question	Number of Teachers	Available Teachers
Availability of records showing written evaluation questions	0	2

Table 4.31 shows that no teachers had any record available of written evaluation questions in this group. Unavailability of this important part of a lesson plan as suggested by Calderhead (1992) means that these teachers may not have been critical on the feedback they received during and after the lesson on academic contents delivery. They lacked an important tool to measure comprehension in children on the academic contents they delivered and this is supported by their children smaller mean score difference at pretest stage and at posttest stage as indicated in Table 4.27.

Further teachers in the control group may also have failed to make a careful monitoring of children activities via observation tagged at the questions they would ask at the end of the lesson/activity as suggested by James- Reid (1983). This means use of inappropriate lesson plans that lack written evaluation questions could fail to develop the teacher as a teacher and hinder children progress in academic performance. It could further be argued that lack of written evaluation question may hinder the teachers from preparing work with children needs in mind and fail to address academic problem as they arise especially children in difficult circumstances or at risk of academic failure.

A one-way between factor ANOVA was computed to determine whether there was a significant difference between the treatment group and the control group in children mean scores as shown in Table 4.22.

**Table 4.32: ANOVA for Written Evaluation Question's Group and the Control Group**

Parameter	Sum of Squares	d.f	Mean Squares	F	Sig
Between Groups	6.199	1	6.199	0.507	0.455
Within Groups	620.812	51	7.1989		
Total	627.011	52			

Table 4.32 shows that a one way between factor ANOVA yielded no significant difference between the treatment group and the control group in children mean scores,  $F(1, 51) = 0.507, p > 0.05$ . The hypothesis that the mean score of preschool children whose teachers use written evaluation questions is not significantly different from the mean scores of children whose teachers do not use written evaluation questions is accepted.

**4.5 Findings of the Main Hypothesis: The mean score of preschool children whose teachers use reflective teaching is not significantly different from the mean score of children whose teachers do not use reflective teaching.**

The research sought to establish whether reflective teaching improves children's mean scores in academic performance in classes where it was used and in classes where it was not used. Reflective teaching emphasizes the use of intellectual criticism, combining research knowledge about previous, present and future actions in teaching and learning processes. A pretest and a posttest were administered to the children whose teachers were trained on use of reflective teaching. The pretest was given before intervention. This group was paired with a control. A total of 103

children and 11 teachers took part in measuring the hypothesis; of this, 56 children were in the treatment group and 6 teachers while 47 children and 5 teachers were in the control group. Table 4.29 shows the mean scores and standard deviations of the treatment group and control group at pretest stage and posttest stage.

**Table 4.33: Mean Scores of Reflective Teaching Group and the Control Group**

	<b>Mean</b>	<b>Number</b>	<b>S.D</b>	<b>Error of Mean</b>
Treatment group pretest	41.48	56	11.92	1.59
Treatment group posttest	42.39	56	10.74	1.44
Control group pretest	40.78	47	9.55	1.39
Control group posttest	41.51	47	9.47	1.3

Table 4.33 shows that the pretest mean score of the experimental group before treatment was 41.48 which was less than the posttest mean score of 42.39. Similarly the pretest mean score of the control group was 40.78 which was less than the posttest mean score of 41.51. This means that both groups had higher mean scores at the posttest stage although the experimental group was observed to have a higher mean score at posttest stage than the control group. This higher mean score in this group could be attributed to use of reflective teaching employed by the teachers in this group.

A paired samples correlation for some groups was computed to check the degree of relationship between children scores at the pretest stage and posttest stage in the treatment group and control group as shown in Table 4.34.

**Table 4.34: Paired Samples Correlations for Reflective Teaching Group and Control Group**

<b>Groups</b>	<b>Correlation Coefficient</b>
Treatment group: pretest and posttest	0.94
Control group: pretest and posttest	0.96

Table 4.34 shows that the paired samples correlation coefficient computed for reflective teaching group was 0.94 for experimental group between the pretest and the posttest stages and for control group at pretest stage and posttest stages was 0.96. This indicates a high degree of congruence in both groups however; in the treatment group the correlation coefficient was lower than the control group which could be attributed in the treatment given. High scorers at protest stage were also high scorers at the posttest stage in both groups.

Paired samples t-test was computed for the treatment and control groups to establish whether there existed a significant difference in pretest and posttest mean scores for children in both groups. The findings are shown in Table 4.35.

**Table 4.35: Analysis of a Paired Samples t-test for Reflective Teaching Group and Control Group**

<b>Groups</b>	<b>Mean Diff.</b>	<b>S.D</b>	<b>Error of Mean</b>	<b>t</b>	<b>d.f</b>	<b>p-value</b>
Treatment posttest-pretest	0.91	3.32	0.41	2.052	55	0.045
Control posttest-pretest	0.72	3.18	0.46	1.556	46	0.127

Table 4.35 shows that a paired samples t-test revealed a statistically significant difference between the mean scores at posttest stage in the treatment group ( $m=42.39$ ,  $S.D= 10.74$ ) and at pretest ( $m=41.48$ ,  $S.D= 11.92$ ),  $t(55)=2.02$ ,  $p=0.045$ ,  $\alpha= 0.05$  and in the control group mean scores at posttest stage ( $m=41.51$ ,  $S.D=9.47$ ) and at pretest stage ( $m=40.78$ ,  $S.D=9.55$ ),  $t(46)=1.556$ ,  $p=0.127$ ,  $\alpha=0.05$ .

Table 4.35 shows that the mean score difference between the posttest and pretest was 0.91 for the treatment group and between posttest and pretest was 0.72 for the control group. The  $p$  value of 0.045 obtained by the t-test is less than  $\alpha=0.05$ . There is evidence to show that there is a statistically significant difference in children's mean scores in academic performance in classes where teachers used reflective teaching but in classes where reflective teaching was not used the difference was not significant. These findings are in line with the findings of Coyle (2002) that reflective teaching can lead to creative and innovative approaches to classroom and school situations. This includes problem solving in academic and this could eventuate into improved learning opportunities for learners.

These findings also corroborates the findings of Haig (2004) that several factors make particular ways of teaching more appropriate and that teachers have the capacity through training and education to develop the art of reflective teaching that includes combining elements of reflective teaching in one way or the other. It could also be argued that reflective teaching is effective in facilitating children cognitive faculties in comprehending academic contents at hand as suggested by Posner

(1989). It is also a tool that can be employed by teachers in mitigating academic problems faced by children coming from difficult circumstances and in societies emerging from conflict and also in children facing various forms of vulnerabilities including internal displacements or at risk of academic failure.

It could further be argued that reflective teaching/elements of reflective teaching improves teachers' introspection and inside probing during pedagogy which can aid the teacher to be subject conscious and deliberate in action. This could lead to self improvement and efficiency in role play as a teacher as opposed to teachers who do not use reflective teaching. The finding also justifies the efficacy of reflective teaching as positively affecting teacher's attitudes and conversely changing children classroom interaction between themselves and teachers' interactions with them. This facilitates to sum up the image of a good society as exemplified by Dewey (1938), a society in which men and women are active agents, intelligently setting their own standards and participating freely and equally in the making of their common destiny.

Teachers' responses from the questionnaires in the treatment group are shown in Table 4.36. The researcher was concerned in items number 1, 3, 4, and 5 (Appendix III) from the reflective teaching group to facilitate in making meaning of the mean scores difference at the pretest stage and at posttest stage in the treatment and the control group.

**Table 4.36: Analysis of Awareness of Reflective Teaching Techniques in the Treatment Group**

Use of Written Reflective Teaching		Response		
Statements	Percentage	Agree	Disagree	Total
I usually keep a diary of what		5	1	6
happens in class	%	83	17	100
Sometimes I call a senior teacher to see		4	2	6
how I teach	%	67	33	100
I usually ask children to teach themselves		5	1	6
in groups and over see what happens	%	83	17	100
Mostly I do not write questions to ask at		4	2	6
the end of the lesson	%	67	33	100

Table 4.36 shows that more teachers in this group agreed on the use of reflective teaching by combining them in one way or the other. In this group 33% (n=6) agreed that they did keep a teaching journal, 67% (n=6) agreed to use mentors frequently during teaching, 83% (n=6) were in agreement on the use of collaborative teaching and 67% (n=6) agreed that they used written evaluation questions. The magnitude teachers' agreement suggests that these teachers used reflective teaching and therefore lead to the significant difference in their children mean scores of 0.91 as compared to 0.72 of the control group.

Teachers' responses from the questionnaires in the control group the reflective teaching group is shown in table 4.37. The researcher was concerned in items number 1, 3, 4, and 5 (Appendix III).

**Table 4.37: Analysis of Awareness of Reflective Teaching Techniques in the Control Group**

Use of Written Reflective Teaching		Response		
Statements	Percentage	Agree	Disagree	Total
I usually keep a diary of what happens in class	%	20	80	100
Sometimes I call a senior teacher to see how I teach	%	20	80	100
I usually ask children to teach themselves in groups and over see what happens	%	40	60	100
Mostly I do not write questions to ask at the end of the lesson	%	20	80	100

Table 4.37 shows that majority of the teachers were in disagreement on use of reflective teaching/elements of reflective teaching. In this group only 20% (n=5) agreed that they used a teaching journal and recorded happening in class, only 20% (n=5) agreed to use mentors in the course of their teaching. In this group still, 40 % (n=5) agreed to use collaborative teaching and only 20% (n=5) agreed to use written evaluation questions in the course of teaching. These low percentages suggests that majority of the teachers were not oriented nor knew the techniques of using reflective teaching and could explain the significant lower mean score obtained by children in these group.

Records kept by the treatment group on reflective teaching are shown in Table 4.38

**Table 4.38 Analysis of Records Kept by Reflective Teaching Group**

<b>Records of Reflective Teaching</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>	<b>%</b>
Availability of records showing written evaluation questions	5	6	83
Availability of records showing children with academic problems	3	6	50
Availability of records indicating teachers' research from children's books internet, newspapers or other sources	2	6	33
Availability of records on collaborative teaching	4	6	67

Table 4.38 shows that majority of teachers in the treatment group had records on the use of reflective teaching. They had records indicating use of reflective teachings in a variety of areas. In this group 67% (n=6) had records on collaborative teaching, 50% (n=6) kept teaching journals and recorded classroom happenings, including their strength and weaknesses in the journals, and 83% (n=6) had written evaluation questions in their notebooks and lessons plans. These records suggests that these teachers went further in making themselves action researchers and constantly sought answers to the problems they encountered in their classrooms. This is in line with the findings of Zeichner and Liston (1996) that reflective teaching makes a teacher subject conscious and responsible for identifying subject content deficiencies and through the act of being reflective and autonomous address such deficiencies. It could further be argued that reflective teaching boosts academic performance in children from communities emerging from conflict as supported by the statistically significant difference in children mean scores for those taught using reflective teaching and those taught using usual methods.

The contents recorded by teachers in the control were further analyzed and are presented in Table 4.39.

**Table 4.39: Analysis of Records Kept by Control Group of the Reflective Teaching Group**

<b>Records of Reflective Teaching</b>	<b>Number of Teachers</b>	<b>Available Teachers</b>	<b>%</b>
<b>Availability of records showing</b>			
written evaluation questions	1	5	20
<b>Availability of records showing children</b>			
with academic problems	0	5	00
<b>Availability of records indicating</b>			
teachers' research work from children's			
books, internet, newspapers or other sources	0	5	00
<b>Availability of records on collaborative</b>			
teaching	0	5	00

Table 4.39 shows that the records kept by teachers in the control group were poor in almost all areas that encompass reflective teaching. It could be inferred that this group lacked the techniques of reflective teaching. Lack of these techniques could have lead to failure by this group of teachers to properly stimulate children cognitive faculties in terms of academic comprehension and retention in line with the finding of Calderhead(1992) on absence of reflective teaching lead to lower development and contextualization of knowledge as indicated by children's weak mean score difference in this group compared with the treatment group whose mean score difference was significant.

A one-way between factor ANOVA was computed to determine whether there was a significant difference between the treatment group and the control group in children mean scores as shown in Table 4.40.

**Table 4.40: ANOVA for Reflective Teaching Group and the Control Group**

Parameter	Sum of Squares	d.f	Mean Squares	F	Sig
Between Groups	7.2313	1	7.213	4.216	0.043
Within Groups	875.65	100	8.7565		
Total	882.8813	101			

Table 4.40 shows that a one way between factor ANOVA yielded no significant difference between the treatment group and the control group in children mean scores,  $F(1, 100)=4.216, p<0.05$ . The hypothesis that the mean score of preschool children whose teachers use reflective teaching is not significantly different from the mean scores of children whose teachers do not use reflective teaching is rejected.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter summarizes the finding of the study and presents conclusions and recommendations for improvement of preschool teachers' training programme in Kenya, also included in this chapter are suggestions for further research.

#### 5.1 Summary of the Findings

The purpose of this study was to examine the influence of preschool teachers' reflective teaching on children's academic performance in Molo District, Kenya. A number of research objectives were set to guide the collection of the needed information. The main objective was to determine whether children's mean scores in academic performance differed significantly in classes where teachers used reflective teaching and the ones where they did not. The specific objectives were four in number and dealt on establishing whether children's mean scores in academic performance differed significantly in classes where teachers used specific elements of reflective teaching and the ones where they did not.

In order to investigate these issues, the main null hypothesis was set, which was: the mean score of preschool children whose teachers use reflective teaching was not significantly different from the mean score of children whose teachers do not. The specific null hypotheses were that the mean scores of preschool children academic performance whose teachers use elements of reflective teaching are not significantly different from the mean scores of children whose teachers do not use the elements of reflective teaching. The review of related literature focused on the nature of

reflective teaching and elements of reflective teaching and the benefits reflective of teaching. The literature that was reviewed provided the guideline and laid the background of this research.

Stratified random sampling and simple random sampling were used to come up with the required sample. A sample of 24 preschools was selected for the study among a population of 151 preschools in the District. A total of 29 preschool teachers and 285 preschool children participated in the study. From the total population of 151 preschools, four preschools were selected for piloting all the research instruments. All the other preschools were eligible participants. The data was collected using a training module for preschool teachers, a questionnaire for preschool teachers, a preschool test for preschool children, and a documentary analysis form for preschool teachers. The sample was divided into two equal groups to enable data collection; the experimental group and the control group. Each group was further divided into five groups. The groups were then paired. Preschool teachers in one group divisions received training on reflective teaching/elements of reflective teaching. The other group did not receive the training.

A pretest and a posttest were administered to preschool children in both groups. The pretest was administered before treatment. Data collected from the preschool children tests was analysed using a computer programme SPSS statistics 17.0 for Windows. Paired samples t-test was used to determine whether a statistically significant difference existed within a given pair of samples in children's academic performance. Questionnaires and documentary analysis were used to gather more information on use/absence of reflective teaching and elements of reflective teaching

from preschool teachers. The data obtained from these two research instruments was analysed manually and was used to give meaning to the mean score differences obtained from the tests at the pretest and posttest stages. Paired samples t-test at  $\alpha=0.05$  level of significance was set as the decision rule of thumb; either to reject or accept the null hypotheses.

The study revealed that reflective teaching influence children academic performance. There was improvement in comprehension of academic contents in the following areas

- a) Languages (Swahili and English)
- b) Mathematics
- c) Arts and crafts

There was statistically significant difference in children's mean scores whose teachers' used reflective teaching while it was not observed in classes were teachers did not use it. In classes where teachers used one aspect of reflective teaching, there was improvement in academic behavior of children as reflected by improvement in mean scores in academic performance as compared with children whose teachers' used usual methods of teaching. However, the mean score differences within groups was not statistically significant.

Based on these findings and the fact that most of the children attending preschools in Molo District face various forms of vulnerability because of constant land, tribal and political clashes between communities who inhabit this area for the last two decades; it was recommended that preschool teachers in Molo District should be oriented and trained on reflective teaching objectives and techniques. Further, it was

recommended that reflective teaching materials, including recent research findings should be made available in preschools and resource centers to enable preschool teachers to have a local resource on reflective teaching.

## **5.2 Conclusions**

The following section provides the conclusions of the study.

### **5.2.1: Elements of Reflective Teaching**

Elements of reflective teaching when used in isolation with each other and in combination with usual methods of teaching facilitate comprehension of children's class work in academics but do not bring a statistically significant difference in children mean scores in tests and examinations. Since a single element of reflective teaching has been shown to imbue value in academic contents comprehension in children from the findings of this study; teachers are encouraged to employ various elements of reflective teaching in their day to day duties in class by combining them in one way or the other at any opportunity during teaching. The teachers are also encouraged to embrace the elements of reflective teaching for their own growth and development as teachers and for better future classroom encounters especially when dealing with children coming from difficult circumstances.

### **5.2.2: Reflective Teaching**

Reflective teaching boosts significantly children's mean scores in tests and examinations by improving comprehension and retention of academic contents delivered during learning hours. This positive effect on learning is based on the facilitation the teacher brings out in the development of child's cognitive faculties as an action researcher. Teachers are therefore encouraged to evaluate, modify and try

again in a democratic atmosphere their personal knowledge, their craft knowledge and their propositional knowledge to facilitate easy knowledge construction in children. Further, teachers should develop and use self directed critical thinking and ongoing critical inquiry in their practice initiated by them and challenge the traditional methods that schools have always carried out their tasks of teaching academics when dealing with vulnerable children. The teachers are also encouraged to do a great deal of introspection, outside prompting and probing to help learners construct and retain knowledge quickly. These should occur where the teachers do not take their academic duties for granted, especially when dealing with children who are vulnerable.

### **5.3 Recommendations**

In light of the findings and conclusions of the study, the following recommendations were made:

- i) Preschool teachers in Molo District, Kenya should be oriented and trained on reflective teaching objectives and techniques through regular in-service courses, workshops and seminars.
- ii) Training in reflective teaching should be of reasonable duration so that pre-school teachers learn comprehensively reflective teaching/elements of reflective teaching.
- iii) NACECE and DICECE personnel of the Ministry of Education should play an important role in disseminating information and training of preschool teachers in reflective teaching /elements of reflective teaching.

- iv) Resource materials on reflective teaching/elements of reflective teaching should be made available to preschools, resource centers and public libraries including research reports, reference books, referred journals and websites.

#### **5.4 Suggestions for Further Research**

- i) Thorough research should be carried out in other Districts using a wider sample and larger areas in order to get findings which could be generalized to the whole Republic of Kenya.
- ii) Comparative study in preschool teachers' tasks should be carried out in order to attempt to find out which areas preschool teachers lay more emphasis.
- iii) Further research to be conducted on the use of reflective teaching in other areas of child learning for example, moral learning, social learning, religious education and poking children naïve ideas in academics.
- iv) Further research on reflective teaching should be conducted in preschools where children are not vulnerable.

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## APPENDIX I

### Letter of introduction

Kingaru Thumbi,

Box 220,

Molo.

Tel: 0725-274507

Pre-school teachers,

Dear sir/Madam,

RE: A study

I am a graduate student of the University of Nairobi. I am pursuing a course in Masters of Education in Early Childhood Education. As part of my work, am required to carry out a study in pre-schools where your participation as a pre-school teacher is sort. Feel free to participate because the findings of this study will be important in completing my course and will be used for this research purpose only.

Yours faithfully,

Kingaru Thumbi

## APPENDIX II

### MODULE FOR PRE-SCHOOL TEACHERS

#### PRE-SCHOOL TEACHERS' REFLECTIVE TEACHING TRAINING MODULE: MOLO DISTRICT, KENYA.

(To be presented in groups as indicated in the research methodology)

**Presenter: Kingaru Thumbi**

**January 2012**

#### **1.0 Rationale**

Reflective teaching is a practice by which the teacher questions his/her practices to give meaning to it. It is an activity where the teacher does not take the classroom practice for granted. It is about interpreting the classroom practice in a systematic manner.

Reflective teaching is about recognizing that teaching young children is problematic and it serves the purpose of mitigating such problems.

#### **1.1 Session 1: By the end of the session the participants should be able to:**

- i) State the cyclic nature of reflective teaching.
- ii) Explain how data for reflective teaching can be collected.
- iii) Outline the importance of reflective teaching.
- iv) State the challenges that face reflective teachers.

The researcher will present the above mentioned areas in a plenary session arrangement.

#### **1.2 Session 2 : By the end of the session 2 the participants should be able to:**

- i) Explain the importance of collaborative teaching.
- ii) Participants do simulation activities on peer mentor roles.
- iii) State the importance of journal keeping.
- iv) Explain the importance of having written lesson evaluation questions at the end of a lesson.

The researcher will present the above mentioned areas in-depth and allow for discussions, simulation, questions and explanations from participants as outlined in the literature review and in groups as outlined in the research methodology.

### APPENDX III

### QUESTIONNAIRE.

This questionnaire is for pre-school teachers. Please answer the questions as truthfully as possible. The information you will provide is important and is for this research purpose only.

#### SECTION A

Name \_\_\_\_\_

Name of your pre-school \_\_\_\_\_

Year of teaching present pre-school \_\_\_\_\_

#### SECTION B

In this section, please tick appropriate box in response to each statement given

**Key**

**SA** – Strongly Agree    **A** – Agree    **UD** - Undecided    **D** – Disagree

**SD**-Strongly disagree

NO	Statements	SA	A	UD	D	SD
1	I usually keep a diary of the happenings in my classes					
2	I usually discuss my class experiences with other teacher(s).					
3	Sometimes I call a senior teacher to see how I teach.					
4	I usually ask children to teach themselves in groups and I oversee what is happening.					
5	Mostly I don't write question to ask at the end of the lesson					
6	In many activities, I ask children to work in groups and discuss among themselves					
7	When planning a lesson (an activity), I usually do not consider other lessons taught earlier.					
8	I usually follow the guideline given by the Ministry to teach, without any alterations.					
9	All my teaching is based on how I was taught, I usually don't add my new ideas					
10	In case of difficulty or unforeseen problems during an activity I let things solve themselves. I don't change the subject matter					
11	I don't discuss my lesson plans with a colleague(s)					
12	I don't question myself about the way ask questions after the lesson					
13	Most of the time I use a cane for children who make mistakes					
14	Most of the time I try new tactics in case of children difficulty					
15	I have never recorded a lesson in my entire teaching career					
16	Most of the time, I find the guideline insufficient to meet what is expected of me as a teacher					
17	I don't disclose my feelings to colleagues about children difficulties					
18	Teaching children is very interesting, you keep thinking about them: the way they bring new ideas to the classroom.					

APPENDIX IV

PRE-SCHOOL EXAM 2012 FOR TOP CLASS

**MATHEMATICS**

i. **Fill in the missing numbers**

			7			10	
1							
						8	

ii. **How many?**

AAA =

QQQQQ + 5 =

RRRR - 3 =



iii. **Add or subtract**

8 + 1 =

4 + \_\_\_ = 5

8 - 5 =

3 + \_\_\_ = 5

6 - 5 + 2 =

**ENGLISH**

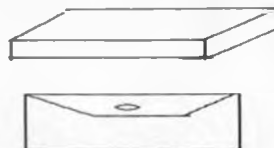
i. **Fill the missing letters**

a - c d - f - h - - k l m - o p - r s - u  
v w - - z

ii. **Write small or capital letters**

Q - b - I - T - C - K - h - D - g - Y -

iv. **Match picture with words**



bag	tree	pot	box	pan
-----	------	-----	-----	-----

## v. Language Activities

### Reading

Sweet pencil salt hot vest shoe  
school

Fun zebra eye teeth square teacher  
duster

### SWAHILI

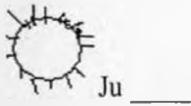
#### i. Jaza pengo

a \_\_\_\_\_ i \_\_\_\_\_ u

Pa \_\_\_\_\_ Pi \_\_\_\_\_ Pu

\_\_\_\_\_ ge gi \_\_\_\_\_ gu

#### ii. Jaza pengo



4 nn \_\_\_\_\_

#### iii. Chora picha

Kuku

kiti

Meza

mpira

iv. **Kusoma**

Chura      uzi      nguo      pesa      darasa      ufutio

Duara      pasia      bendera      godoro      farasi

**ART/CRAFT**

i. **What is missing?**



Cup



car



Girl

UNIVERSITY OF NAIROBI  
KIKUYU LIBRARY

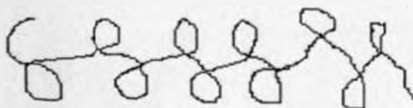


Hut



Sun

ii. **Endelea mwandiko**



**APPENDIX V**

**Documentary Analysis Form**

**Date.....**

**Type of document.....**

**Contents**