EFFECT OF TEACHERS' REFLECTIVE TEACHING APPROACH ON PRESCHOOL CHILDREN'S SOCIAL EMOTIONAL COMPETENCES IN MOLO SUB-COUNTY, KENYA

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E87/50829/2016

THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN EARLY CHILDHOOD EDUCATION OF THE UNIVERSITY OF NAIROBI

2022

DECLARATION

This thesis is my original work and has not been submitted for an award of degree or a diploma in any other University

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DEDICATION

This thesis is dedicated to my sons- Alexander Thumbi and Nelson Karanja, my late parents, and those who believe in critical reflection.

ACKNOWLEDGEMENTS

I am greatly indebted to my supervisors; Prof. Jane C. Gatumu and Dr. Evanson M. Muriithi whose guidance, suggestions, and encouragement provided me with the impetus to continue with this research study to completion. My sincere gratitude go to the entire staff of the University of Nairobi especially the staff of Kikuyu Campus, Faculty of Education in the Department of Educational Communication, Technology and Pedagogical Studies for their support during the development and final compilation of this thesis. Special appreciation goes to Dr. James K. Kahura of Muranga Level Five Hospital and Miss Rahab W. Mbogo of Molo Academy for moral and financial support throughout the study period

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LIST OF ABBREVIATIONS AND ACRONYMS

ANCOVA-Analysis of Covariance

ANOVA- analysis of variance

CBC- Competence-Based Curriculum

DESSA-Devereux Student Strengths Assessment

PEV- Post Election Violence

SPSS- Statistical Package for Social Sciences

ABSTRACT

The purpose of this study was to examine the effect of teachers' reflective teaching approach on children's social emotional competences in Molo Sub-County, Kenya. A review of related literature focused on the nature and the importance of reflective teaching approach and children's social emotional competences in the implementation and delivery of the competence-based curriculum. This was done for teachers, through reflective teaching approach/features of reflective teaching approach, to provide preschool children with explicit lessons on social emotional competences. They were also to find opportunities for learners to reinforce their use in course of the day. Six objectives guided the study and dealt on whether the features of reflective teaching approach namely, action research, reflective journals, peer review, theoretical literature, and use of learners' feedback would have an effect on children's social emotional competences either separately or when combined. The study methodology was a quasi-experimental design with a pretest-posttest model. Stratified random sampling and simple random sampling procedures were used to obtain the study sample. The sample comprised 16 preschools with 32 teachers and 558 children from a population of 167 preschools. Sixteen teachers with 269 children were in the intervention groups while 16 teachers with 289 children were in the control groups. Data was collected using a training module for preschool teachers, Devereux Student Strengths Assessment (DESSA) for preschool children, preschool teachers' semi-structured interview schedule, and a documentary analysis form for preschool teachers. Training on reflective teaching approach/features of reflective teaching approach was done in the treatment groups. The training on each feature of reflective teaching was done in 5 preschools paired with 5 control preschools while training on combined features of reflective teaching approach was done in 3 preschools paired with 3 control preschools. DESSA pre-test and post-test were administered to preschool children in the treatment and control groups to obtain children's scores in social emotional competences before and 3 months after teachers' training. The scores were converted to Standard *T*-score for data analysis in the statistical package for social sciences version 25.0 for Windows. ANCOVA test at alpha=0.05 level of significance was used to determine whether statistically significant differences existed between the treatment groups and control groups mean scores. Data from semi-structured interview schedules and documentary analysis forms were analysed by hand and made meaning of statistical differences obtained from the DESSA mean scores. There were statistically significant differences in children's mean scores between the treatment groups and control groups. DESSA domains mean strengths were also tabulated based on reflective teaching approach/features of reflective teaching approach. The findings indicated that reflective teaching approach could be effective on teaching preschool children's social emotional competences in CBC. This would happen through the professional growth and development of teachers and children's social emotional cognitive schema. It is recommended that preschool teachers in Molo Sub-County should be trained on reflective teaching approach/features of reflective teaching approach for preschool children's social emotional competences. This would be done through regular in-service courses, workshops and seminars through the Departments of Basic Education and Early Learning in the Ministries of Education both in the Central and Nakuru County Governments. Further, the Molo Sub-County local resource centers should be stocked with recent research findings on reflective teaching approach, preschool children's social emotional competences, and related literature. Further research studies should also be conducted on: the effectiveness of reflective teaching approach for children's social emotional competences using larger samples to enable results generalization in Kenya, other preschool learning areas, and vulnerable/at risk preschool children.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Strong social, emotional and academic are important components that entail teaching and learning in schools (Zins, Weissberg, Wang, & Walberg, 2004). Emotional competence focuses on the aspect of using emotions to send and receive messages that are significant for social interactions while social competence refers to children ability to function effectively in social interactions (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2008). Numerous research studies have shown that social emotional competences and motivational variables have significant impacts on preschool children's well-being and beyond (Jones, Greenberg & Crowley, 2015). At the same time, skills-based interventions targeting preschool children's social emotional competences have become a major area of investigation (McClelland, Tominey, Schmitt & Duncan, 2017). In this study, reflective teaching approach is used as a skill-based intervention on preschool children's social emotional competences.

Science has also found a convincing connection between the development of preschool children's social emotional competences, behavior, and school success (Zins, Bloodworth, Weissberg, & Walberg, 2004). In addition, international organizations such as Organisation for Economic Cooperation and Development [OECD], national governments, researchers and scholars in prevention science have recognised preschool children's social emotional competences as a foundational necessity for a happy and fulfilling life (Durlak, Domitrovich Weissberg & Gullota, 2015; OECD, 2015; Seligman, Ernst, Gillham, Reivich & Linkins, 2009).

Regrettably, many learners lack social emotional competences and grow into being less connected to school life as they advance from preschool to high school. According to Blum and Libbey (2004), lack of school connection affects children's academic performance, behaviour, and health. O'Connell, Boat, and Warner (2009) draw attention to teachers not to wait until challenging behaviour surface before giving instructions in social emotional competences. They call attention to teachers not to miss the opportunity to avert massive costs of mental, emotional, and behavioral problems as well as their remediation to learners, their immediate families, their schools, and society at large.

A variety of evidence is available to indicate the need for social emotional instructions for preschool children. Students who are not taught social emotional competences, effectively run the risk of special education referrals, loss of instructions, decrease in friendship, and overall loss of self-esteem. In addition, such children have a likelihood of developing more severe social and emotional problems in life (Committee for Children, 2002). Emotion regulation which encompasses emotional suppleness, calmness, and contextual suitability of preschool children, forecasts later school success (pre-academic headway, team working, affirmative relationships in school, and school enjoyment) even with effects of age, verbal ability, emotional ability and understanding of emotion held constant (Graziano, Reavis, Keane & Calkins, 2007; Miller et al., 2006). On the same line, emotion regulation is correlated to reduced anxiety, enhanced social competence and success in academics (Graziano et al., 2007; Trentacosta & Izard, 2007).

An optimal classroom climate should be characterized by minimal conflicts and disruptive behaviour, smooth changeovers from one kind of activity to another, appropriate expressions of emotion, courteous communication, problem-solving

strong interest and attention to task, supportiveness and responsiveness to individual differences and learners' needs (La Paro & Pianta, 2003). LeBuffe, Shapiro, and Robitaille (2017) urge teachers to use strength-based approaches to assess children's social emotional competences, focusing on positive behaviour rather than deficit-based behaviours.

According to Bae (2009), the ability to reflect and adopt flexible images of children and childhood are some of the most important hallmarks of effective early childhood professionals. They are also required to re-examine the roles they play in preschool children's lives. Teachers in early childhood settings should reflect on and pose important queries about the likely unfairness and/or inequalities of their predetermined ideas about preschool children. This has been found to be critical in becoming more impersonal in how images of preschool children are constructed (Appl & Yordle, 2005; Smith, 2007).

LeBuffe, Shapiro, and Robitaille (2017) contend that assessing children social emotional competences using strength-based tools promotes reflective practice and creates professional development opportunities for preschool teachers. Weissberg, Durlak, Domitrovich and Gullotta (2015) point out that one of the prevailing preschool children's social emotional competences learning methodologies involves training teachers to deliver explicit lessons that teach social emotional competences and finding occasions for learners to strengthen their use right through the day.

At a broad level, reflective teaching approach encompasses being thoughtful about one's teaching and the cognitions involved. According to Akbari (2007) and, Jay and

Johnson (2002), there does not seem to be clear-cut definitions for reflective teaching hence various approaches are used in preschool teacher education. The approach for this research study is where teachers align themselves to a reflective teaching approach and hence grow and develop a superior level of self-awareness about the nature and impact of their performance. This wakefulness creates opportunities for professional growth and development for themselves as well as their learners. In this approach, action research, reflective journals, peer review, theoretical literature, and the use of learners' feedback are the key pivots of teaching children's social emotional competences (Brookfield, 2002, 2005; Osterman & Kottkamp, 1993).

Historically, Dewey (1910) is acknowledged as one of the most prominent American educators of the twentieth century in reflective teaching approach (Jay & Johnson, 2002; Zeichener & Liston, 1996). According to Ixer (1999), the concept of reflective teaching can be found in all disciplines and can be marked out backward in the work of Descartes, Kant, Wittgenstein, Pierce and Popper and is even embedded in Plato's Meno. Dewey's work on reflective practice seems to be more applicable to reflective teaching approach.

As a pragmatist, he introduced three different types of action to teaching: impulsive action, which features trial and error; routine action, which has authority in preconceptions and prejudices, and reflective action which is in principle, 'the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the ground that supports it and the further conclusion to which it tends' (Dewey, 1910, p.6). On the same foot, reflection allows one to distil 'rational knowledge from the mess of human experience' (Jordi 2011, p.182), and links

‘experience and emotions to the neural pathways of the brain where information and ideas are stored and can be recalled’ (Fink, Knight & Michaelsen, 2004, p. 97).

Reflective teaching is advanced as an innovative solution to teachers’ predicaments to counter the effects of bureaucracy, centralization, and control where teachers appear to deliver a fixed curriculum and are not treasured as reflective professionals (Jackson, 2006). The democratisation of the teaching profession is reliant on the representation of practitioners who are liberated enough to have their expressions heard through action research, reflective journaling- their narratives, accounts, documented texts, and examination of their practice through various lenses namely: peer review, theoretical literature, and learners’ feedback (Brookfield, 2005). These practices enable teachers to better understand what they teach, how they teach, and why they teach (Galea, 2012).

After studying children’s development and education programmes in 20 countries, OECD (2006) point out that improvement in children’s long-term outcomes are attainable when learning experiences are of high quality. Reflective teaching is a significant feature of high-quality preschool education. On the same breath, Thumbi (2012), Gatumu, Muriithi, and Thumbi (2014) and Thumbi, Gatumu, and Muriithi (2016) found reflective teaching and peer mentoring in reflective teaching approach to improve preschool children’s academic performance in classes where they were used compared to classes there they were not.

Action research is a critical dimension for teachers’ professional development that has captured the educational community in the last three decades (Burns, 2010). This is a sustained, intentional, recursive, and dynamic process of inquiry in which the teacher takes an action purposefully and ethically in a specific classroom context to

improve teaching/learning and hence move towards uniting theory and practice (Carr & Kemmis, 1986; Farrell, 2004; Elliott, 2005; Larrivee, 2000). Stenhouse (1981) believed that teaching should be based on research, that the classroom was a natural laboratory for the study of teaching and learning, and that research and curriculum development (Elliott & Adelman, 1975) were the privileged preserve of teachers (Elliott, 2007).

According to Whitehead (1993), reflective practice focuses on practitioners learning about the art and craft of their profession through their personal lived experience. Reason and Bradbury (2001) reject the mindless application of procedure across all settings and advocates for contextually appropriate ways formulated by investigative and imaginative practitioners. Ulla, Berrea and Acompanado (2017) point out that doing classroom research is the process of identifying problems in a given classroom and addressing them with a view of improve teaching and learning.

Bolton (2010) considers reflective journals as being one of the most significant strategies in use for promoting reflective thinking in teacher education because of their practical utilization. Journaling as an individual activity, teachers put down their thoughts, ideas, feelings, and reflections (Gilmore, 1996). Spalding and Wilson (2002) found the following benefits of reflective journals: a permanent record of contemplations and experiences; a secure outlet for a teacher's concerns and frustrations, and support for internal dialogue. In a reflective journal, the format should cover free stream-of-consciousness writing, and structured exploration of significant events. In this case, the main objective is to cultivate self- awareness and enhanced concept grasp (Bolton, 2010; Ramsey & Fitzgibbons, 2005).

A review of reflective journal entries by teachers encourages personal growth and professional development, which means, teachers can assess the quality of learners' comprehension and mastery of materials as well as learners' effective response to content (Hubb & Brand, 2005). Furthermore, a reflective journal provides that a teacher takes charge of his/her learning and develops the habit of a reflective, lifelong educator (University of Canberra, 2014).

Peer review encompasses the joint and deliberate development of observation of actual teaching with intention to enhance teaching practices. Peer review work on the premise that the teaching profession should be taken more like its academic counterpart, research. A researcher/scholar stays active and linked to a research community and gets frequent reviews, and hence attains growth and development. Concerning teaching, a teacher should get regular reviews from other teachers for professional growth as well as development (Klopper & Drew, 2015). According to Brookfield (2002), teachers' reviews of their practice with colleagues on crises and dilemmas they are faced with, facilitating them to check, reframe, and enlarge their theories of practice. According to Hutchings (1996), peer review offers openings for teachers to explore their teaching with a group of colleagues who can cultivate improvement. Bernstein (2008) in his examination of peer review processes found that they positively impacted teaching staff attitudes toward teaching. However, Bell (2001) found that peer review may increase anxiety (due to the observation) for some teachers.

Brookfield (2005) believes that scholarly literature is a trustworthy mirror to put a footing against day-to-day teaching and learning practices. He proposed that scholarly literature can make an effective substitute for a critical friend in teaching and learning. McIntyre (1995) argues for practical theorising. His approach accepts

theory both as a process and as content. He argues for a theory that is directed to practical ends and points out that theory is a means that facilitates the development of useful repertoires for meeting a given standard of competence.

Tom and Valli (1990) describe knowledge as a source of schemata that can alter the perception of teachers' practitioners. A prominent function of theoretical literature is providing an orientation base for reflection on practice (Eraut, 1994). Brookfield (1995) contends that literature and theory should time and again support teachers with a larger vocabulary to describe and understand their practice. This can provide multiple perspectives on both familiar and unfamiliar situations prevalent in their classrooms. He further suggested that referring to scholarly literature can turn out to be a psychological and political survival tool in which teachers come to appreciate the link between their private predicaments in the classroom and the wider political processes.

Furthermore, Brookfield (2002) points out that in classroom research, teachers' informed judgment is dependent on having correct information vis-à-vis how and what children are learning. This is based on the premise that teachers' looking at themselves through their learners' feedback can provide valid and reliable evidence for practice. Teachers' involvement with learners' opinions of their schools' learning environment could eventuate in enhanced and responsive teaching. Evaluation, assessments/tests, journaling, learners' focus group, and learners' interviews can offer hints in improving teaching and learning.

In Kenya, The National Pre-primary Policy Framework (2017) states that the goal of research in early childhood education and development shall facilitate the generation

of evidence-based information for decision making and the development of appropriate interventions in children's learning. This is in line with the demands of the constitution of Kenya (2010), the aspirations of the Kenya Vision 2030 (Government of Kenya, 2010, 2007), and Sessional Paper No. 2, 2015 on Reforming education and training in Kenya which recommended the establishment of the Competence-Based Curriculum [CBC] (Government of Kenya, 2015; Kenya Institute of Curriculum Development, 2016). Competence-based education identifies skills that should be mastered by learners and regularly measured against set standards to assess the effectiveness of teaching and learning (Farant, 2004).

A research report by the Kenya Institute of Curriculum Development [KICD] (2016), on needs assessment for early childhood development and education, school curriculum reform in Kenya identified and recommended social and emotional competences (self-awareness, self-esteem, self-confidence, personal safety and emotional awareness) as a learning area in the competence-based curriculum. At the same time the report also indicated that teachers have to do more than the mechanical process of teaching to produce citizens that thrive in modern society. It recommended that teachers require training for greater flexibility and balance (KICD, 2016).

Preschool teacher education in Kenya is undertaken by Universities, middle-level teachers' training colleges, County centers of early childhood education and other trainers from non-government organizations; either individually or in concert. The literature review done for this study reveals that preschool teachers' education is primarily positivist-oriented despite research studies indicating strong positive correlations between effective teaching and teachers' reflective teaching approach/ features of reflective teaching.

In the same breath, Kipkorir and Njenga (1997) point out that the philosophy of early childhood in Kenya is rooted in the community and the fate of children in difficult circumstances is not addressed in preschool teacher education. The absence of a reflective teaching approach in addressing preschool children's social emotional competences in the implementation and delivery of the competence-based curriculum in the Molo Sub-County makes this study worthwhile.

1.2 Statement of the Problem

After the announcement of the 2007 disputed presidential election, some parts of Kenya erupted with Post Election Violence (PEV) that continued into the early part of 2008. Some of the hard-hit areas were Kisumu, Mombasa, Nairobi and Rift valley. In the Rift Valley, there was PEV in Molo, Eldoret, Burnt Forest, Nakuru and Naivasha among others in both urban areas and their surroundings (Reuters, September 18, 2008; Al Jazeera, January 28, 2008). For Molo, this was the third time PEV had happened, the first occurring in 1992 followed by the 1997 presidential elections (Koigi, 2009).

In Molo, a Sub-County of Nakuru County, PEV has had its accompanying effects traced backward for two and half decades from the onset of this study. Of importance, are social disruptions that affected families with and without children attending preschools. Some of the affected families relocated elsewhere but the majority were resettled in the years 2010, 2013, 2014, 2015 and 2016 (Molo Sub-County Commissioner, 2018). Social disruptions come along with children lacking basic needs, security needs, self-esteem needs, emotional regulation, and attention as happened to most preschool children in Molo Sub-County. These children therefore,

require support in social emotional competences more than ever before because they attend preschools coming from difficult circumstances where their families as well as teachers adjust and/or cope with resettlements.

According to OECD (2009), children who experience social disruptions might have lower than average educational attainment and worse developmental outcomes relative to children in stable families. For this reason, teachers' empowerment and support in terms of children social emotional competences can have major effect on their cognitive development and school success. To achieve these goals, Weare and Gray (2003) state that teachers working with them need to learn new forms of pedagogy and psychological insights.

For a competent citizenry, the government of Kenya has come up with competence-based curriculum. The universities' curricula for graduate and post-graduate courses in early childhood education as well as the upgrade programme Certificate of Early Childhood to Diploma in Early Childhood Teacher Education [DECTE] curriculum design (KICD, 2021) calls for teachers to engage in self-reflection. These upgraded curricular designs do not place a reflective teaching approach as the centerpiece of teaching preschool children' social emotional competences and are silent on the teaching of social emotional competences for children coming from difficult circumstances. This leaves teachers working in Molo Sub-County without enough tools for children's social emotion competences learning areas as they implement and deliver the competence-based curriculum.

As these children enter primary schools, they may not meet the demands of the classroom especially where social emotional competences are concerned (Dacey & Travers, 2004). This research study introduced a reflective teaching approach in the

teaching and learning of social emotional competences in Molo Sub-County preschools, Kenya. Selected teachers in the Sub-County were trained in reflective teaching approach to empower them to have a greater effect on children's social emotional competences in the competence-based curriculum.

1.3 Purpose of the Study

The purpose of this study was to examine the effect of teachers' reflective teaching approach on preschool children's social emotional competences in Molo Sub-County, Kenya. The features of reflective teaching approach investigated include action research, reflective journals, peer review, theoretical literature, use of learners' feedback, and combined features of reflective teaching approach for effective implementation and delivery of the competence-based curriculum.

1.4 Research Objectives

The objectives of the study were to:

i) Examine whether teachers' action research affects preschool children's social emotional competences.

ii) Determine whether teachers' reflective journals affect preschool children's social emotional competences.

iii) Establish whether teachers' peer review affects preschool children's social emotional competences.

iv) Determine whether teachers' use of theoretical literature affects preschool children's social emotional competences.

v) Establish whether teachers' use of learners' feedback affects preschool children's social emotional competences.

vi) Examine whether teachers' reflective teaching approach effects preschool children's social emotional competences

1.5 Hypotheses of the Study

The hypotheses of the study were:

i) H_o1: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use action research and those who do not.

ii) H_o2: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use reflective journals and those who do not.

iii) H_o3: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use peer review and those who do not.

iv) H_o4: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use theoretical literature and those who do not.

v) H_o5: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use learners' feedback and those who do not.

vi) H_o6: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use a reflective teaching approach and those who do not.

1.6 Significance of the Study

This study adds more research findings worldwide and in Kenya in particular on teachers' reflective teaching approach for preschool children's social emotional competences. It is a reference for teachers, children education researchers, education policy makers in early childhood education and development, curriculum

developers for early childhood education and development and faculties in Universities with early childhood education programmes trying to find a nexus between reflective teaching approach and preschool children's social emotional competences in a competence-based curriculum. It is also a local resource for preschool teachers and education stakeholders in Molo Sub-County and other localities with similar characteristics in Kenya as well as globally. According to Mugenda (2008), it is important to add new research findings addressing local issues to the existing local knowledge base and put preschool teachers' practitioners in touch with current research in the implementation and delivery of the competence-based curriculum.

1.7 Limitation of the Study

Extraneous factors may have popped into the study and the researcher could not have control over included changes over time by participants (Gall, Borg & Gall, 1998; Kothari, 2004). For the teachers, the researcher was not able to control their attitude toward reflective teaching approach, and personal factors such as absenteeism and could not with certainty confirm whether they had received training in reflective teaching approach from other authorities.

The researcher was also handicapped in controlling the preschool children's natural maturation in social emotional competences for the reason that families and society in general play a significant role in their maturation (Dacey & Travers, 2004). Further, some of the children could have had special needs that would have affected the normal maturation of their social emotional competences. The researcher however, used a design that blocked most of these extraneous variables and triangulated data collection, and therefore protected the internal validity of the findings.

1.8 Delimitation of the Study

The study was carried out in Molo Sub-County. Preschools in this Sub-County have children whose families' lives have been socially disrupted for over twenty-five years at the onset of this study and could be at risk of academic failure and future problem behaviour.

1.9 Basic Assumptions of the Study

The researcher made the following assumptions to enable the study operationalization: Preschool teachers in the study sample had not received training in reflective teaching approach/ features of reflective approach from other authorities for the implementation and delivery of the competence-based curriculum, especially in social emotional learning areas; teacher's participants had a positive attitude towards reflective teaching approach/ features of reflective teaching approach and used this approach as the main tools in teaching and learning of children's social emotional competences.

1.10 Definitions of key terms

This section contains the definition of key terms that were used in the research study:

Action Research: Development of a coherent understanding of how a particular preschool class learns social emotional competences.

Effect: Use of teachers' reflective teaching approach /features of reflective teaching approach to change the outcome of preschool children's social emotional competences scores in the competence-based curriculum.

Learners' feedback: Well-versed judgment based on how and what preschool children are learning in terms of social emotional competences through evaluations, assessments, and interviews.

Peer Review: Teachers using colleagues as mirrors or sounding boards to provide feedback when teaching preschool children's social emotional competences.

Reflective Journals: Consistent records of classroom activities on preschool children's social emotional competences.

Reflective Teaching Approach: A process of disciplined intellectual criticism that combines action research, reflective journals, peer review, theoretical literature, and learners' feedback to deliver explicit lessons to preschool children on social emotional competences and find opportunities for learners to strengthen their use during the day in the competence-based curriculum.

Social Emotional Competences: Abilities of preschool children to manage feelings and relationships.

Theoretical Literature: use of documented scholarly work as a mirror to hold up against teaching practices in the learning of children's social emotional competences.

1.11 Organization of the study

Five chapters are contained in this research study. Chapter one gives an overview of the scholarly landscape that directed the research study. The research objectives, hypotheses, significance of the study, limitations, delimitations, basic assumptions of the study and definitions of the key terms are also presented. The second chapter highlights the following themes: significance of children's social emotional competences, nature of reflective teaching approach, features of reflective teaching approach, competence-based curriculum, and theoretical and conceptual frameworks that pivoted the study.

Chapter three presents the following: research design, target population, sampling procedures and sample size, research instruments, the validity of research instruments, reliability of research instruments, procedures for data collection and

analysis, and ethical considerations. The fourth chapter presents the study finding, analysis and discussions based on the DESSA pre-test post-test *T*-scores, obtained from children's scores on social emotional competences in the sample. Analysis of covariance (ANCOVA) determined statistical significance. Further, the chapter discusses the findings of the research study and weighs up on its relation to previous research.

In the final chapter, the summary of the study, conclusions and recommendations are made for the growth and development of features of reflective teaching approach/ reflective teaching approach on preschool children's social emotional competences in the competence-based competence in Molo sub-county, Kenya and similar localities. Areas that warrant further research are identified in relation to the study findings.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter highlights the significance of preschool children's social emotional competences, the nature of reflective teaching approach, salient features of reflective teaching approach as found in literature and, theoretical and conceptual frameworks that pivoted the research study.

2.2 Significance of children's social emotional competences

Children's emotional competence is focused on aspects of using emotions to send and receive messages that are important for social interactions, in contrast social competence refers to a child's ability to function effectively in social interactions (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2008). Children's social emotional competences can be broken down into eight main components that relate to one another: self-awareness, social awareness, self-management, goal-directed behavior, relationship skills, personal responsibility, responsible decision making and optimistic thinking. Self-awareness is the ability to know one's self- being able to pinpoint, recognize and respond correctly about how one feels about something; social awareness is a child's ability to take the standpoint of and empathise with other children including, using cooperation and moderation in social situations; relationship skills is the ability of children to form positive relationships and maintain those relationship; self-management focuses on controlling behaviour and emotional impulses; goal-directed behavior is a child's ability to initiate, and resolve in completing tasks of varying difficulty; personal responsibility is a child's tendency to be careful in his/her actions; responsible decision making involves making resolutions based on consideration of ethical standards and safety concerns while

optimistic thinking is a child's attitude of self-confidence, optimism and thinking positively regarding life situations (Smith, Shapiro, Sperry, & LeBuffe, 2014).

According to Collaborative for Social and Emotional Learning [CASEL], social emotional competence involves integrating thinking, feelings, and behaviour in a child for him/her to achieve important life skills (Zins et al., 2007). Learning of social emotional competences covers a child's emerging abilities to form close and secure relationships, in addition to regulating and expressing emotions in socially and culturally appropriate ways, exploring the environment and learning within the context of the family, the community as well as the culture (Yates et al., 2008).

CASEL's social emotional learning framework highlights five core competency areas: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Core SEL Competences, 2019). CASEL points out that the primary mode of change in children's social emotional competences is through teacher training and improvement of the preschool environment. In Kenya, a research report by KICD (2016) on needs assessment for early childhood development and education, and school curriculum reform; identified social and emotional competences (self-awareness, self-esteem, self-confidence, personal safety and emotional awareness) as a learning area in preschool education and development that should be covered in the competence-based curriculum.

Research evidence indicate that children, who are not taught social emotional competences effectively, have a high probability of special education referrals, miss instructions, have diminished friendship circles, drop in self-esteem, and are more likely to have severe social emotional problems (Committee for Children, 2002). At the same time, research has found that children who learn social emotional

competences have subjective well-being, affirmative peers, teachers, and the larger preschool school community healthy relationships and similar variables. In addition, there is increased participation and achievements in almost all areas of the learners' life (Kluczniok et al., 2016; The Centre for Adolescent Health, 2018). Numerous research studies have shown that social emotional competences and motivational variables have significant impacts on preschool children's well-being and beyond (Jones et al., 2015). In the same breath, the ability to regulate emotions and behaviors has been cited as the most important component of school readiness (Rimm-Kaufman et al., 2000).

According to Durlak et al. (2011), schools' prevention programmes have been designed and executed with impressive study results in randomised control trials; indicating positive effects over an extended time, running into decades. For example, the Perry Program in the United States aimed at low-social economic populations, found 6% incarceration rates compared with 17% in a control group. The intervention group earned more, had more stable family relationships, and was healthier four decades after the intervention (Belfield, Nores, Barnett & Schweinhart, 2006).

Kaiser et al. (2000) found that the probability of children growing up in poverty and entering school with significant shortfalls in social emotional competence readiness is considered high, with over 40% indicating delays in social emotional competencies and communication abilities when they enter school. They also found more than 20% of the children display disruptive behaviour problems that undermine school adjustment. To a considerable extent, these deficits in children's social emotional competences disclose the adverse effect of poverty as well as factors connected with it. For example, exposure to violence and stress on parenting

practices, shortfalls in self-regulation and social competence. These could likely result in rejection by peers and a struggle in regulating behavior which may hinder abilities to focus and acquire new academic competences (Lengua, Honorado & Bush, 2007; Webster-Stratton, & Taylor, 2001).

Elliot (1999) conducted a study at Kinsington Avenue Elementary School in Springfield, Massachusetts. The study found that social emotional learning was responsible for the reduction in problem behaviors that continued in succeeding years. Further, they found out and that the skills were "academic enablers" because when the skills were mastered; the result was a general improvement in academic achievement tests. In a recent meta-analysis on school-based interventions, interventions in social emotional learning, Taylor, Oberle, Durlak, & Weissberg (2017) observed statistically significant improvement in children's skills, dispositions, pro-social behavior, and academic performance at follow-up periods ranging from 56-195 weeks.

A review of 180 school programmes in classroom-based programming conducted by CASEL in the United States, found preschool children who were in social emotional learning programmes making significant progress in various facets of their social and academic lives. Further, the researchers reported positive academic results to be consistent across social-economic levels; namely, urban, sub-urban and rural locations, and in ethically different settings (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2008). In an earlier research study by The University of Virginia's Curry, School of Education and Advanced Centre for Teaching and Learning, it found significantly superior results associated with the learning of children's social emotional competences. The researchers observed: increase in learners' and teachers' morale, an increase in learner's positive social behavior, and an increase in teachers'

teamwork (Rimm-kaufoman, 2006).

In a longitudinal study finding by Sylva et al. (2004) in Siraj-Blatchford et al., (2008), on effective delivery of preschool education; their findings revealed that quality preschool settings showed positive effects on learners' intellectual development as well as social and emotional development. The research concluded that preschool children made better headway when: teachers become aware of preschoolers' learning styles; teachers were conversant with the right pedagogical content and lastly, teachers were committed to an unending professional inquiry. Therefore, knowledge development is possible when preschool teachers' reflect on their teaching practice and observe the effect caused by their values, methods, and solutions on preschool learners (Siraj-Blatchford, Taggart, Sylva, Sammons, Melhuish, 2008).

Committee for Children, (2002) reported that preschool children from low social-economic areas achieved the most gains and teachers rated them more socially competent and less aggressive when they were put on a social emotional learning programme. It also stated that elementally school years have been shown to be critically important for children and in addition, research has shown that social emotional competences have a positive effect on learners' and teachers' feelings about school.

A recent meta-analysis comprising 33 studies from reliable databases was conducted to establish the effect of class-wide social emotional interventions in preschools. The study reported sufficient data to enable the researchers to calculate effect size of the interventions. Results obtained found statistically significant effect on preschool children's social emotional competences ($g = 0.42$, $z = 5.77$, $p < 0.001$, $k = 34$) with a

drop on challenging behaviour (g = −0.31, z = −5.03, p < .001; k = 28) (Luo, Reichow, Snyder, Harrington & Polignano, 2020).

Kindness Curriculum, an intervention in the United States was designed to enhance empathy, pro-social behavior and self-regulation in preschool children. Teachers attended ten-hour training and delivered to preschool children over twelve weeks in a secular manner and as part of the standard classroom instructions. Through teachers' rating and direct assessment; it was found that the intervention group had greater improvements across the domains of social competence, including earning higher in their report card grades and the domains of social emotional development ($d = 0.26$–0.29) compared to the control group who displayed more selfish behavior over time. In addition, there was a significant effect on cognitive flexibility ($d = 0.43$) and delay of gratification ($d = 0.23$–0.37) (Flook, Goldberg, Pinger, & Davidson, 2015; Poehlmann-Tynan et al., 2016). The intervention, however, did not use a reflective teaching approach as a study variable.

The literature reviewed for this research study found no report that has been documented in Kenya evaluating the effect of reflective teaching approach on preschool children's social emotional competences to know what 'works'. Further, a report by Weare and Gray (2003) recommend that teachers cannot transmit social emotional skills if they are not empowered enough professionally.

2.3 Nature of reflective teaching approach

According to Ixer (1999), thoughts about reflection appear in all disciplines to the effect that they can be marked out backward in the works of Descartes, Kant, Wittgenstein, Pierce, and Popper and are embedded in Plato's Meno. Conford (2002) points out that one can see a profusion of writings about reflection under the cover of self-analysis discussions in the work of Aristotle, Plato and Socrates who established

the philosophy of 'educational thinking' (Fat'hi & Behzadpour, 2011). In this study reflective teaching approach is anchored on these discussions to link them to preschool children's social emotional competences.

A reflective teaching approach can cultivate a superior state of self-awareness concerning the nature and impact of teachers' performance which builds openings for their professional growth and development. According to the literature that was reviewed for this study, this would happen through the use of action research, reflective journals, peer review, and the learners' feedback either as a single variable or in combination. It emphasises thinking about one's teaching and cognition involved which includes intellectual criticism, and research knowledge about previous, present, and future actions in the teaching and learning processes (Larrivee, 2000).

Galea (2012) holds that one of the most significant features of the teaching profession is reflective teaching approach because it challenges the positivistic approach that has over-whelmed the field of education in the recent past. Rather than follow a means-to- an-end model that restricts practicing teachers to a handy role that duplicates the prevailing culture and subjects them to dictatorial and supervisory mechanisms; reflective teaching approach is viewed as a real device for democratising the teaching and learning process. According to Kim and Silver (2016), reflective thinking can and should be part of teachers' professional development.

The American educational theorist John Dewey is considered the first scholar to view teachers as reflective practitioners (Rodgers, 2002). According to Rodgers (2002), Dewey (1910/1933) enunciated the concept of how individuals think in a

book titled, *how we think.* Rogers (2002) distilled from Dewey's writings four criteria that characterized his concept of reflection: Reflection is a meaning-making process; an orderly and disciplined way of thinking anchored in scientific inquiry; happens in a community of teachers and in interaction with other teachers and involves altitudes that value personal and intellectual growth. According to Dewey (1933), reflection takes six phases, which mirror the scientific method: an experience; spontaneous interpretation of the experience; identification of the problem(s) that emanate out of the experience; generating likely explanation for the problem(s) ramifying the explanation into full-blown hypothesis and testing the selected hypothesis.

Hillier (2005) states that Dewey's proposition on the practice of a careful examination and elaboration of a tentative hypothesis launches a reflective approach to teaching and learning activities. In the same breath, Pollard and Tann (1993) claim that developing and applying Dewey's concept of reflection in teaching is challenging as well as exciting. They recognized a number of key characteristics of its effect on teaching: It entails a dynamic engagement with aims, consequences, means and technical efficiency; it is a cyclical process where teachers' plan, monitor, evaluate and revise their practice constantly; where teachers' work with an attitude of an open mind, whole heartedness and where personal fulfillment is enriched through partnership and discourse with colleagues. According to Valli (1997), Dewey's theory separates teachers' thinking from their actions which implies that theory and practice are kept apart. In relation to this study, Dewey's writings are silent on the teaching of children's social emotional competences using reflective practice.

The influential work of Donald Schön also reintroduced interest in reflective practice in education (Brookfield, 1995; Jay & Johnson, 2002). Coming up against the

background of criticism on positivist epistemology of teaching practice; Schön (1983) advanced his concepts on the reflective practitioner. According to Schön (1983), researchers were not working with practicing professionals and practitioners were not finding out about the latest research, at the same time, technical rationality was abortive in resolving the tight spot of rigour versus relevance challenging professionals.

Schön (1987) pointed out that in professional teaching practice, there are issues that can be resolved by the use of research-based theory and practices but there are also issues that can be determined by a form of professional knowing. He termed this 'knowing' as reflection-in-action or critically thinking on the spot. He claimed that sometimes professionals have to assess, adjust and apply new approaches and activities at once in the thick of things (Schön 1983, 1987). According to Schön (1987), this process is supported by experience processes, familiarity and understandings over which one has limited control. For thinking after the event, he uses the term reflection-on-action (Schön, 1983/1987). This means that before teaching, teachers reflect and plan the lesson and, after the lesson, they consider or think about what happens during the lesson in terms of its success or failure.

Anchoring on the work of Schön (1983/1987), Fish and Cole (1998) contends that professional practice is complex, unpredictable and messy. In order to manage, a lot more has to be done by teaching professionals than following set steps and procedures. They draw on both practical experience and theory as they think on their feet and improvise, acting both intuitively and creatively. According to Atkins and Murphy (1993), both cognitive and affective skills are prerequisites' for effective thought and these combinations bring about self-awareness, critical analysis, synthesis, and self-evaluation. However, Moon (1999) regards Schön's concept of

reflection-in-action as unachievable. In relation to this study Schön (1983/1987), fails to connect reflection-in-action and reflection-on-action to the teaching of preschool children's social emotional competences.

Advancing Dewey's (1933) notion of active learning Kolb (1984), points out that reflective practice is cyclic in nature and highlighted a four cyclic process. The preschool teacher may begin with a description, then reflection on a particular experience. In the third phase, the teacher explores explanations concerning the significance of the experience. Lastly, the teacher applies what he/she has learned from the experience to new meanings/other situations. In his work, Kolb (1984) argues that knowledge is formed through transformation of these experiences. Further, Kolb and Fly (1975) demonstrate that teachers' learning while in practice has no end but only another turn of the cycle. Kolb (1984) however, fails to show how the reflective cycle is connected to the learning of preschool children's social emotional competences.

2.4 Action research in reflective teaching approach and preschool children's social emotional competences

Reflective teaching approach and action research are evidently linked. Elliott (2005) refers to action research as grounded curriculum theory; where theories are validated through practice. He points out that from the context of practice, theory arises and its merit is determined in practice, and that is where the unity of theory and practice rests. According to Farrell (2004), the aim and intention of action research are not geared toward the development of universal principles applicable to all teaching and learning situations, rather it is to build and verify a coherent explanation of how a particular classroom works. Action research has been defined as a continuous, deliberate, referring back, and active process of inquiry where a teacher takes action

purposefully and ethically in a particular classroom context to improve teaching and learning and hence move towards uniting theory and practice (Carr & Kemmis, 1986; Elliott, 2005; Farrell, 2004).

Lüdke (2001) views teachers as professionals, who like artists, seek the best ways to reach students in the teaching and learning process, and by use of different materials, look for the solutions most suitable to their creations. Further, he argues that by teachers doing classroom research, they can identify problems in a given classroom and address the problems with a view to improving the teaching and learning process (Ulla, Berrea and Acompanado, 2017).

Hensen (1996) claims that through action research, teachers are able to construct new knowledge from their classes, encourage their thinking, enlarge their pedagogical repertoire, put them in charge of their craft, strengthen the connections between their practice and learners' accomplishment, nurture openness for ingenious ideas, learn new information, and give teachers exclusive ownership of effective practice. In the same breath, he claims that action research in reflective teaching is connected to teachers' professional growth and development.

Cochran-Smith and Lytle (1993) classify teachers' action research into two types: conceptual research and empirical research. Firstly, conceptual research relates to preschool teachers' interpretations of assumptions and characteristics of the classroom; school life and the research itself. Empirical research includes the collection, analysis and interpretation of data collected from teachers' own schools and classrooms. Secondly, empirical research is classified into three forms: teachers' journals, teachers' oral inquiries, and teachers' classroom/school studies. Journals are documents that accounts of a teacher's classroom over time, including documented

observations, documented examination of experiences and documented practice interpretations. On oral inquiries, are preschool teachers' oral examinations of classroom, contexts, texts, and experiences including collaborative analyses and, interpretations and explorations between cases and theories. Teachers' classroom/school studies are examinations of practice-based concerns using data that is based on observations, conversations, and document collection involving individual or collaborative work.

Action-research was included as part of a teacher development program centered on the improvement of pedagogical interactions over two years in Chile. Guerra and Figueroa (2017 conducted a research study on the effect of those interactions using teachers' participants serving children living in poverty and under vulnerable conditions. Data obtained from teachers' interviews and analysed through qualitative content analysis indicated that action research provided them with new insights that made them more reflective about their practice. They began to critically examine the way they interacted with learners and the consequences of those interactions in the learners' lives, both in the short term and in the long term. Further, research results implied that action research created pedagogical growth and development by enhancing teachers and learners' interactions. In place of teachers waiting for others to bring about changes, they become agents of pedagogical change.

San Antonio (2018) carried out a research study on a seven month-long university-school partnership action research project in a high-poverty rural elementary school in the United States. Narrowing the research study to social emotional learning; research results indicated that teachers' participants began a conversation with learners and among themselves. This led to the emergency of new lines of thought about their practice and classroom interactions, and had alternative views of their

learners' abilities. There was also overall yearly improvement in the school and teachers rated the learners as more curious. The study did not, however, give empirical evidence on the effectiveness of action research for children's social emotional competences. Further, no research report was found in the literature that was reviewed for this study evaluating the effect of action research in reflective teaching approach on preschool children's social emotional competences in Kenya.

2.5 Reflective journals in reflective teaching approach and preschool children's social emotional competences

Gorman (1998) contends that a teacher's journal is an 'idea keeper'. It is a place for documenting the events of day-to-day teaching, students' difficulties/problems and successes, teaching brain storming and criticism of oneself. The structure and format of reflective journals could include free stream-of-consciousness writing or a structured analysis of critical events (Bolton, 2010; Ramsey & Fitzgibbons, 2005; Varner & Peck, 2003). Reflective journals are also useful tools for surfacing process-based situational learning for reflecting in action, on action, and for action (Eraut, 1995; Schön, 1983; Wilson, Howitt, & Higgins, 2016). Although more time and effort are required to write reflectively in journals (compared to routine writing), the results of journal writing become an active process that promotes more reflective thinking which leads to more effective teaching (Thompson & Pascal, 2012).

According to Hume (2009), a teacher's reflective journal function like a self-assessment device in evaluating one's educational philosophy and instructional approach in the classroom. Further, a reflective journal offer opportunities for teachers to have a dialogue with themselves (LaBoskey, 1994; Sparks-Langer & Colton, 1993). In a research study carried out in Sydney by Woodward (1998), it was found that reflective journals facilitated pre-service teachers to discover themselves.

The prospective teachers were able to know who they were, what they knew, what they could do and what they were like as individuals by writing and reviewing journal entries. Heichel and Miller (1993) and, Varner and Peck (2003) explicitly identified the goals of reflective journals as follows: helping teachers think more critically about their teaching, keep track of classroom activities and record the impact of their class activities which leads to the development of self-awareness and better comprehension of concepts.

Kahles (2015) conducted a qualitative research study on a group of preschool teachers who were trained to use reflective journals over 18 months in Palestine preschools. The results indicated that reflective journals encouraged teachers to engage in reflective teaching practice, improved their self-awareness of what they were doing, uncovered their strengths and weaknesses and opened wider horizons of their teaching lives.

In another study conducted in Molo District preschools, Thumbi (2012) trained a group of teachers on journal keeping in reflective teaching for children's academic performance and paired them with a control group for four weeks. Study results revealed that children in the intervention group had a higher mean score in academic performance compared to the control group. A one-way between factor ANOVA analysis of the children's scores, however, yielded no significant difference between intervention and control groups (F (1, 35) = 2.502, $p > 0.05$). This was mainly attributed to a short period of teachers' training in journal keeping and children's intervention period.

Gatumu, Muriithi and Thumbi (2014) conducted a similar study in Molo District but in this case, combined journal keeping with collaborative teaching, peer mentoring,

and the use of lesson evaluation questions in reflective teaching for children's academic performance. The results were statistically significant (F (1, 100) = 4.216, $p < 0.05$) indicating the importance of peer mentoring in teaching and learning in a reflective approach. These studies, however, did not focus on social emotional competences and the literature that was reviewed for this study found no research report on the use of reflective journals in reflective teaching approach for preschool children's social emotional competences in Kenya.

2.6 Peer review in reflective teaching approach and children's social emotional competences

According to Miller (1990), there are indications from teachers' reflection groups that speaking to colleagues about a common problematic issue, raises a teacher' likelihood of tripping across clarifications that are fitting with what happens in a specific classroom situation. A study done in the United States by Camburn (2010), found that opportunities for teachers to reflect with colleagues led to more reflection, and that such reflection was a potent tool in contributing to teachers' learning. When teachers have the opportunity to share and interact in a community of professionals, there is growth and development in teaching and learning (Fishman & Davis 2006; Meirink, Meijer, and Verloop 2009).

According to Lieberman and Miller (1991), there is a pervasive lack of self-confidence, feelings of vulnerability, and fear of being found out among teachers. Clark (2001) points out that one way to counter these susceptibilities is through teachers' reflection groups and discussion circles on learning and pedagogy. In these circles, teachers habitually utilise one another more like critical mirrors and/or sounding boards. This provides them with images and clarifications of their professional practice. According to Brookfield (1998), a fellow teacher's experiences

may put forward dynamics and causes that are more sensible compared to explanations one has evolved.

According to Cunningham (2001), reflective teaching approach requires that teachers deliberate and explore with other teachers the difficulties they come across in their classrooms. He argues that this approach could lead to better future classroom encounters. Reinman (1999) contends that reflective teaching approach should take into account identifying teachers' meaning and importance of a classroom or school situation. These entail the disclosure and examination of personal feelings. According to participants in a case study done in the United States by Osterman and KottKamp (1993), teachers begin to appreciate that problems and personal deficiencies they thought were unique to them were wide spread in the teaching profession and were shared by many in situations like theirs. Simply having the knowledge that they are not on their own in the struggle, can release teachers of unfounded feelings of ineffectiveness.

Spiller (2012) points out that the use of peer-assessment can lead to collaborative learning via exchange on what entails good work. He suggests that engaging in commentary in relation to the work of fellow teachers can raise one's ability for judgment and intellectual choices. He argues that receiving feedback from peers can make one get varied ideas about their work to promote development and improvement. Further, peer review encompasses practicing teachers working in partnership and sharing ideas, viewpoints, thoughts and observations. On whole, these promote teachers' self-assessment and collaboration for improved teaching and ultimately improved learning for students (Soisangwarn & Wongwanich, 2013).

In peer review, Blackmore (2005) advanced a best practice framework. Through a summary of prior literature, he pointed out that the following components for

effective teachers' peer reviewing: Instructions on the process before teachers' participates in the review and this should include the numerous techniques to gauge teaching; enablement of a culture of trust and empowerment, and clear documentation of improvements; administrators participation and involvement, systematic changes in who reviews whom, and how, with a focus on checks and balances, and the inclusion of learners' feedback.

According to the Centre for Teaching Support and Innovation (2017), peer review consists of pre-observations, observation and post-observation joint discussions in schools. Throughout the process, peer observation can act as a valuable opportunity for reflection; give insight into teaching practices, mutual professional development, and quality improvement in teaching and learning in schools (Sullivan, Buckle, Nicky, & Atkinson, 2012).

Using a pretest-posttest research design, Thumbi, Gatumu and Muriithi (2016) trained a group of preschool teachers in Molo District on peer mentoring in a reflective teaching approach for children's academic performance and paired them with a control group. Results revealed that the intervention group achieved higher scores compared to the control group but found no statistical difference between the two groups (F (1, 35) = 2.502, $p > 0.05$). The researchers attributed the lack of statistical difference between the two groups in the study to: a short length of the teachers' mentorship training and fewer numbers of implementation follow-ups. This research study did not focus on social emotional competences and no research report was available in the literature that was reviewed for this study on the use of peer review in reflective teaching approach for social emotional competences in Kenya.

2.7 Theoretical literature on reflective teaching approach and children's social emotional competences

McIntyre (1995) argues for practical theorising. His approach takes theory both as a process and as content, and is tolerant of diverse perspectives. Further, he argues for a theory that is focused on practical ends. He defines practical theorising as a way towards evolving valuable repertoires of achieving an agreed-upon level of competence. McIntyre's contribution to the use of theoretical literature in the classroom is more concerned with using theory in a practical way than creating new knowledge.

According to Kreberc and Castleden (2009), peer-reviewed educational literature is valuable to practicing teachers because it is essentially based upon rigorous and systematic study, quality controlled by referees. Brookfield (2002) points out that theory facilitates teachers to label their practice by shedding light on the features of what they think are idiosyncratic know-hows. Theory avails various standpoints on familiar classroom situations and assists teachers' in combating feelings of impostorship that usually plight their existence and facilitate them to reflect. He further points out that in some cases, all teachers are certain of is that unless they are very careful, they will be found out to be teaching under pretenses.

Further, Brookfield (1995) states that literature and theory are lenses teachers can use to enlarge vocabulary and this can enable them to describe and understand their practice. According to him, this can offer multiple viewpoints on familiar situations teachers are faced with in the course of teaching. He further states that scholarly reference can become both a psychological and political survival necessity through teachers come to understand the connection between their private troubles and broader political processes. Furthermore, scholarly literature can facilitate teachers to

recognize that what they think are signs of individual failings could be circumstances that are externally generated and over which they have little control (Brookfied, 2002). He succinctly calls for teachers to use theoretical literature as a significant lens in reflective teaching but fails to connect this lens to children's social emotional competences.

A study done in the United States by Jalongo and Isenberg (1995), found out teachers reading of teachers' stories from scholarly literature about the crises, concerns and impasses they faced in practice, assisted them to put their problems in perspective and eventually found ways of resolving them. The study however did not point out how the theoretical literature could be used to advance children's social emotional competences. Further, no study was found in Kenya focusing on use of theoretical literature in a reflective teaching approach for preschool children's social emotional competences in the competence based curriculum.

2.8 Use of learners' feedback in reflective teaching approach and children's social- emotional competences

According to Hammersly (1993), at the center of the classroom's research is the belief that well-versed assessment is dependent on teachers having correct information vis-à-vis how and what children are learning. According to Brookfield (2002), having a sense of what is happening to learners as they grapple with the problematic, threatening and exciting process of learning constitutes teachers' primary pedagogical information.

One way of getting learners' feedback would be the use of the Critical Incident Questionnaire [CIQ] (Brookfield, 2002; Tripp, 1993). According to Brookfield (2002), the CIQ requires regularly assessing the learners' by asking the following

questions: What happened in class that you felt most drawn to and what was most unusual? When did you feel no longer connected? What was done that made you feel most supported? What action did the teacher or learners do that you felt most puzzling or hard to understand? And what was most surprising?

In a study conducted in the United States by Warash and Workman (2016, teachers in a reflective teaching programme used questioning, one on one children's interviews and children's discussions to help four and five years old children to review and reflect on their work. Learners were found to be more persistent in completing their tasks and demonstrated better self-acknowledgment when sustained interest and persistence were acknowledged by the teachers. Warash and Workman (2016) argue that preschool children should be involved in decision-making about their learning and in evaluating their progress. Hittie (2012) claims that involving children in evaluating themselves and their work enables them to reflect and to have more control of their success and teachers should not hastate to meet this expectation.

When there is an appreciation of how preschool children experience learning; teachers' methodological choices risk being ill-informed, inappropriate or harmful (Brookfield 2022). Brookfield and other proponents of the use of theoretical literature in teaching do not however, explain how learners' feedback could be used for children's social emotional competences. Further, no research report was found in the literature on the use of leaner's' feedback as a core facet of reflective teaching approach to preschool children's social emotional competences in the implementation and delivery of the competence-based curriculum in Kenya.

2.9 Competence-Based Curriculum, reflective teaching approach, and children's social emotional competences

The competence-based curriculum in Kenya came into force in order to align the education sector to the constitution of Kenya 2010, Vision 2030 and global trends in education and standards. This was through the task force report on the re-alignment of the education sector to the constitution of Kenya 2010 (Republic of Kenya, 2012). The rationale for a competence-based curriculum was further informed by reports of Sessional Papers No.14 of 2012, No. 2 of 2015 and the Kenya Institute of Curriculum Development (KICD) needs assessment survey (2016) among others on the need for a national value system including the need for preschool learners to acquire prerequisite competences in the present century (MoEST, 2012, 2015; KICD, 2016).

Importantly, competence-based curriculum emphasises on development and creation of knowledge, skills and attitudes and conversely uses them in the real world and pivoted on national education goals. The competence based curriculum is supposed to facilitate among others, critical thinking, problem-solving, imagination and creativity in an individual to bring out citizenship loaded with values. In this curriculum, values are standards that guide an individual in any given circumstances (KICD, 2016).

To implement competence-based curriculum in Kenya, preschool teachers are required to use learner-centered methods as opposed to teacher-centered, aiming at learning outcomes as opposed to lesson objectives. In this curriculum, teaching should be participatory, with real-life application. Among others, social emotional

competences (self-awareness, self-esteem, self-confidence, personal safety and emotional awareness) are learning areas in preschool education. In these areas, the teacher is required to use role plays, songs, dance, drama, demonstrations, exploratory methods and field studies. Further, the teacher should provide diverse resources and teaching and learning resources that are sourced within the locality to ensure relevant and meaningful learning. Teachers should have the capacity to improvise and develop low-cost materials (KICD, 2016).

According to Wanzere (2002), it is important to enhance the competence of the Kenyan preschool teachers in the light of the rapid, intensive and fundamental nature of present-day technological, economic, cultural, societal and political changes. In light of these changes, Darling-Hammond (1990) opines that policies in teaching affect the teachers directly and hence if pedagogy has to change as a matter of policy, the policy too has to pay attention to the knowledge base of the teachers.

Wedell (2009) found that in Japan, educational changes in the new curriculum made teachers apprehensive because of the required new practices in classroom management. They appeared to lack confidence in the new styles they were expected to adopt in the classroom. Reflective teaching approach has been shown to improve teachers' confidence and independence from the literature reviewed for this study and in the same breath, LeBuffe, Shapiro, and Robitaille (2017) contend that assessing children social emotional competences using strength-based tools promotes reflective practice and creates professional development opportunities for preschool teachers. The literature reviewed for this study found no research report linking reflective teaching approach to children's social and emotional competences in Kenya.

2.10 Theoretical framework

This study is based on the improved theory of constructivism. The formalization of this theory is generally attributed to Piaget (1975) who articulated mechanisms by which knowledge is internalised by learners. This is a theory of epistemology that argues that human generates knowledge and meaning from an interaction between their experiences and their ideas (Bruner, 1996).

Piaget (1975) suggested that through the process of accommodation and assimilation, individuals construct new knowledge from their experiences. When individuals assimilate, they incorporate it: they take objects, concepts, and events and incorporate them into their mental structures without changing the framework. When individuals' experiences contradict their internal framework they may change their perception of their experience to fit their internal representation; thus, accommodation is the process of reframing one's mental representation of the external world to fit new experiences.

Accommodation can be understood as the mechanism by which failure leads to learning. When individuals act on the expectation that the world operates in one way and it violates their expectation, they often fail but often by accommodating this new experience and reframing their model of the way the world works, they learn from their experiences or others failure (Dacey & Travers, 2004). It is through experience that an individual learns that particular actions lead to certain results. Against this experience, an individual advances theories about how the world works and acts accordingly. Over time, these patterns of action become habitual (Tobin & Tippins, 1993).

Osterman and Kottkamp (1993) believe that the place of reflective practice is in a constructivist paradigm. They term this practice an experiential learning cycle. This cycle consists of four stages: concrete experience, assessment, re-conceptualization, and testing in new situations (Kolb, 1984). In this process, new ideas that arise become hypotheses to be tested in action. From successful experiences, new behaviours and ideas then become integrated into patterns of action. It is against this background that reflective teaching approach/features of reflective teaching approach namely; action research, reflective journals, peer review, theoretical literature and use of learners' feedback can be put to active experimentation in teaching preschool children's social emotional competences and effects observed.

According to Bruner (1996), teaching instruction should be involved with experience and content that make students eager and ables to learn (readiness); teaching instruction must be designed so that it can be grasped by the learners (spiral organization) and teaching instruction should be designed in a way that enable extrapolation. It is through continuous development of knowledge that is built on prior knowledge and growing out of the experience, and precisely challenging experiences that actual learning happens (Bettencourt, 1993). Knowledge, or the emerging of new ideas into the knowledge base, happens when a tested solution leads to the anticipated result hence the principles of reflective practice approach suggest the definitive goal is competent action or enhanced performance (Osterman & Kottkamp, 2004.

2.11 Conceptual framework

The conceptual framework tailor-made for this research study involved several steps. First, the researcher identified the salient features of reflective teaching approach in the literature that was reviewed. These features were employed by teachers in the treatment group to drive the process of reflective teaching approach for preschool

children's social emotional competences. The features applied were: action research, reflective journals, peer review, theoretical literature and use of learners' feed, singularly or all combined. They were the independent variable.

The teacher's task in this framework is referred to as the provision of explicit lessons for preschool children's social emotional competences while finding opportunities for learners to strengthen their use during the day. Therefore, using these features of reflective teaching approach, the teachers dynamically vary their teaching techniques based on the overall feedback from the preschool children. The dependent variable in this framework is the preschool children's social emotional competences scores. For the control group, teachers were not trained in reflective teaching approach as shown in figure 1.

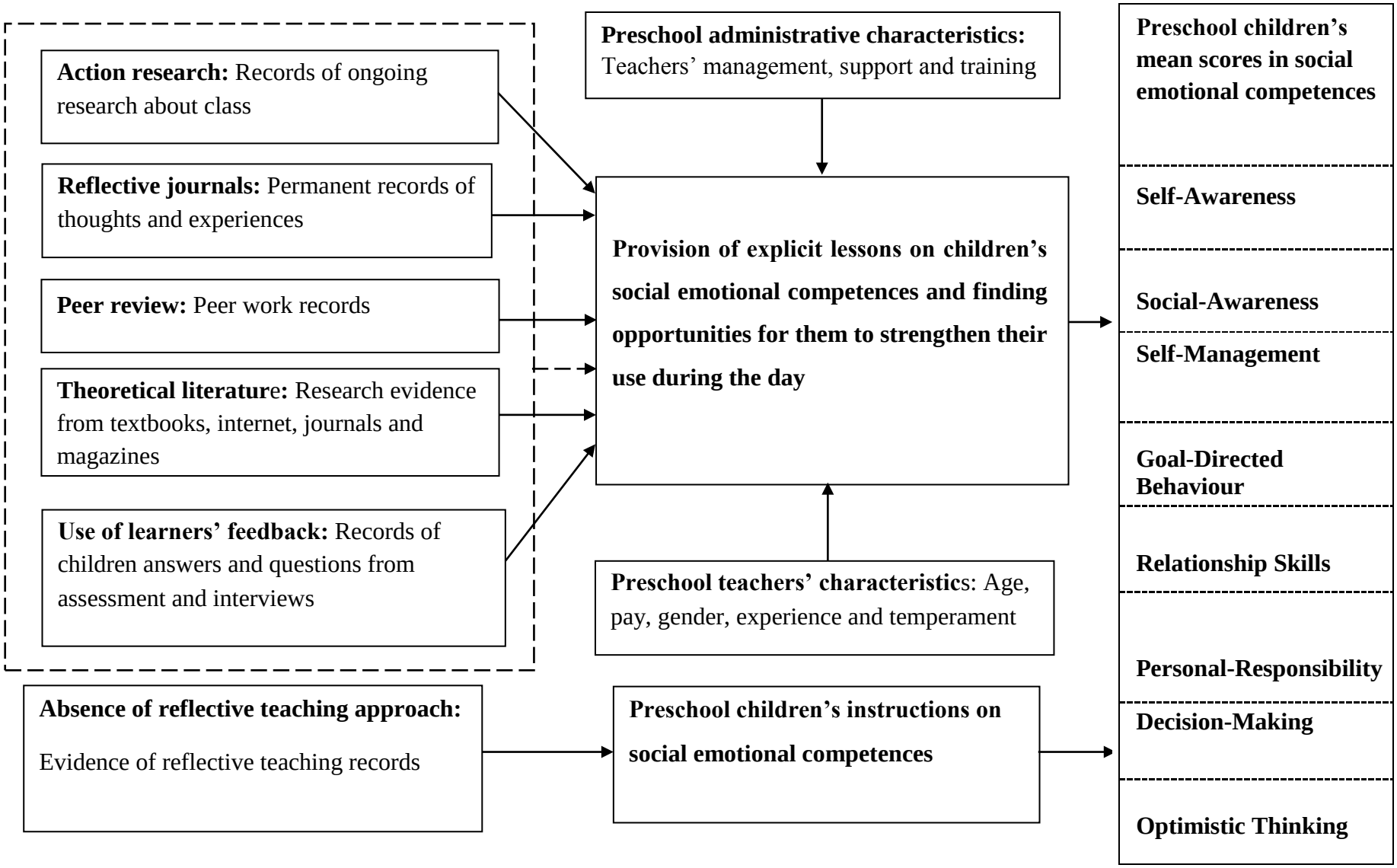

Fig.1. *Relationship between Reflective Teaching Approach and Children's Mean Scores in Social Emotional Competences*

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was employed in the study. It contains the research design, the population that was targeted, sampling procedures and sample size, instruments for data collection, validity and reliability of the instruments, procedure for data collection, and how data was analysed. Ethical considerations are also highlighted.

3.2 Research design

Quasi-experimental design with pretest-posttest group model was used in the study. The design avoids extraneous variations resulting from the passage of time and non-comparability of the treatment and control groups (Kothari, 2004). The dependent variable (preschool children's scores in social emotional competences) was measured in all the children participants at the beginning of the study. These scores were considered pre-test. The intervention (training teachers in a reflective teaching approach) was introduced to the treatment groups before monthly follow-ups were conducted.

Preschool children's scores in social emotional competences after training were measured again for all the preschool children in the sample after three months. These scores were considered as post-test. The treatment effect was determined by comparing the post-test children's mean score in the control groups to the mean score in the treatment groups. This was done after subtracting children's mean scores obtained at the beginning of the study in both groups which were considered as covariates (Kothari, 2004). This design is illustrated as shown in figure 2.

Groups	Time Period I (0 Time)		Time Period II (After 3 Months)
Treatment groups:	Level of social emotional competences (X)	Treatment →	Level of social emotional competences (Y)
Control groups:	Level of social emotional competences (A)	No Treatment →	Level of social emotional competences(Z)

Treatment effect= (Y-X) - (Z-A)

Fig.2. *Pretest-Posttest Group Design Model*

In order to capture more information on what could have been the outcome if the training was not implemented; documentary analysis for preschool teachers (Yin, 2009) and semi-structured interviews for preschool teachers were conducted with both the treatment groups and the control groups at the end of the study period (Neuman, 2006; UNICEF, 2014).

3.3 Target population

The target population was all 167 preschools in Molo Sub-County with 18,598 preschool children, where 99 are privately owned and 68 are located in public primary schools (Molo Sub-County Education Officer, 2018). For more than two decades Molo residents have experienced PEV, happening along tribal lines voting patterns, especially in the years 1992, 1997, and 2007/08 (Koigi, 2009). In the years 2010, 2012, 2013, 2014, 2015, and 2016, the Government of Kenya resettled families that had previously been internally displaced by PEV of 2007/08 (Molo Sub-County Commissioner, 2018). As a result of the PEVs, preschool children in this Molo Sub-County come from families whose lives have been socially disrupted and could lack basic needs, security needs, self-esteem needs, emotional regulation, and attention.

3.4 Sampling procedures and sample size

Stratified random sampling and simple random sampling were employed in this study. Stratified simple random sampling enabled the representation of the two subgroups in the population namely public and private preschools (Kothari, 2004). Using the table of random numbers (Borg & Gall, 1989) sixteen schools, 7 public and 9 private preschools were selected from a population of 167 preschools which represented 10% of the population (Kothari, 2004). Further, simple random sampling was used to place them; half into treatment groups (those whose teachers' received training in reflective teaching approach/features of reflective teaching approach) and control groups (Kothari, 2004).

Before the main study, simple random sampling was used to select 7 preschools, 4 public and 3 private with a total of 14 teachers and 213 children for a pilot study from the study population (Kothari, 2004). The sample was divided into two, a treatment group and a control group. The treatment group had six preschools with 12 teachers and 181 children while the control group had one preschool with 2 teachers and 32 children. This size was larger than 10% of the sample size drawn from the larger parent study and was considered sufficient (Connelly, 2008). The preschools in the pilot sample were excluded from the study sample (Kothari, 2004).

3.5 Research instruments

The following research instruments were employed in the study: Preschool teachers' training module, Preschool children's Devereux student strengths assessment (DESSA), Preschool teachers' semi-structured interview schedule and Preschool teachers' documentary analysis form. The training module (Appendix II) was based on Dewey (1910/1933) and Rodgers (2002) ideas of reflective teaching, improved

theory of constructivism (Piaget 1975; Bruner, 1996), and the cyclic nature of reflective teaching based on Kolbs (1984). Included in the module were the following features of reflective teaching approach: action research, reflective journals, peer review, theoretical literature, and the use of learners' feedback (Elliott, 2005; Brookfield, 2002). Further, the module contained the importance of children's social emotional competences (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2008), social and emotional competences (LeBuffe, Shapiro & Naglieri, 2014), child-teacher relationships and their association with concurrent and future behaviour and achievement (Committee for Children, 2002).

The teachers' training module was used to train teachers in a reflective teaching approach for preschool children's social emotional competences in CBC implementation and delivery. They were also trained to deliver explicit lessons in a reflective teaching approach on children's social emotional competences and to find opportunities for learners to strengthen their use during the day.

Devereux Student Strengths Assessment (DESSA) (Appendix III) was adopted for this study. This is a behaviour rating scale that assesses social emotional competences in children. According to authors, LeBuffe, Shapiro and Naglieri (2008), the assessment tool was created using a resilience framework and specifically targets the "within child" protective factors (i.e., strengths) each child possesses for early intervention and prevention practices both in school and at home.

Accordingly, it is psychometrically sound and practical and contains eight domains that measure social emotional competences: self-awareness- genuine understanding of own strengths and limitations, social-awareness- interaction with other children

respectfully as well as desire for one's improvement, self-management- achievement in regulating emotions and behaviour in order to complete a given task, goal-directed behavior- initiation of and perseverance in task completion of varying difficulty, relationship skills- effort that encourage and uphold positive connections with other children, personal responsibility- being careful as well as being reliable in actions that lead to group success, responsible decision making- approach to problems' solving that entail ones experience and learning from peers, optimistic thinking- the attitude of self-confidence and positive anticipation about personal and life situations (LeBuffe, Shapiro & Naglieri, 2014).

The DESSA 72-item, standardized and norm-referenced scale yields an overall total score called the social emotional composite. The DESSA can be administered by teachers, caregivers, staff, and significant adults in a child's life, especially in children-serving organisation within 8 to 10 minutes (LeBuffe, Shapiro & Naglieri, 2014). To complete the scale, a rater rates each item on a 5-point Likert scale ranging from 0 to 4 representing: never, rarely, occasionally, frequently, and very frequently as indicated in Appendix III. Once the rating is complete, items are summed to raw scores which are converted to *T*- scores with a mean of 50 and a standard deviation of 10. High scores include *T*-scores of 60 and above and indicate strengths, *T*-scores between 41 and 59 represent typical scores, and *T*-scores of 40 and below represent a need for instructions (LeBuffe, Shapiro & Naglieri, 2014).

DESSA was developed in the United States from a resilient framework and focuses on promoting early intervention of children's social emotional competences (LeBuffe, P. A., Shapiro, V. B., & Naglieri, J. A. 2009). Analysis of this instrument found no statistically significant differences in ratings across racial, ethnic, gender,

geographic or social-economic status of preschool children, among children's raters, and preschools' different curricula. It also allows pre-test and post-test comparisons designs, meant to gauge change over time of children's social emotional competences (Chain et al., 2017; LeBuffe, Shapiro, & Robitaille, 2017). It was therefore considered an appropriate tool to measure preschool children's social emotional competences in Molo Sub-County, Kenya.

A semi-structured interview schedule (Appendix IV) was used to gather important information regarding time allocations, feelings and attitudes of the teachers including techniques the teachers used. It was also used to find out the challenges the teachers faced while teaching preschool children's social emotional competences through reflective teaching approach/features of reflective teaching approach in the competence-based curriculum. Through these interviews, the researcher was able to gain insights, comparisons and contrasts between the treatment and control groups from the teachers' participants. Key questions and prompts helped the researcher to elicit a specific type of responses, clarify questions and enable respondents to extend, elaborate, and provide details and qualify their responses (Oppenheim, 1992).

Further, the researcher used documentary analysis form (Appendix V) as an indirect technique to facilitate more insight based on the focus of the research study (Burton, 2007). It contained templates to fill on what teachers had recorded on action research, reflective journals, peer review, theoretical literature and use of learners' feedback for preschool children's social emotional competences. The templates were filled by the researcher and an independent rater while perusing the preschool teachers' documents to confirm activity in reflective teaching approach/features of reflective teaching approach on children's social emotional competences.

3.6 Validity

The face and content validity of the training module for its applicability was assessed by a panel of lecturers in early childhood education from the Faculty of Education, University of Nairobi and piloted. This was in order to make the items in the module clear (Kothari, 2004). Semi-structured interview schedule face and content validity were validated by the same panel and piloted to ensure that items in the schedule elicited the anticipated response. Ambiguous items were substituted with clear ones or modified (Kothari, 2004). According to Shapiro (2007), DESSA has strong criterion validity and is very effective in setting apart preschool children who do not and who have social and emotional problems with an alpha score of 0.87.

3.7 Reliability

According to DESSA authors, LeBuffe, Shapiro and Naglieri (2014), the internal consistency of DESSA is 0.92 and a test-retest reliability correlation coefficient of 0.86. The reliability of the semi-structured interview schedules was established by test-retesting during piloting. The researcher asked the same respondent the same questions from the semi-structured interview schedule and scored within one week in sections as in Appendix IV.

The estimate of reliability was obtained by computing the correlation between the two scores obtained by the researcher on two interval scales for the same variable. The Reliability Co-efficient whose values vary between 0.00 and + 1.00 was computed using SPSS statistics for windows version 25 (IBM Corporation, 2017). The closer the value to + 1.00 the stronger the congruence measure (Adams & Schraneldt, 1985). The reliability coefficient was found to be 0.83. This indicated high test-retest reliability (Kothari, 2004).

In the documentary analysis, inter-rater reliability was established by collecting content based on reflective teaching approach/features of reflective teaching approach from pilot preschool teachers. An independent rater collected the same information. A table of presence and absence of records on reflective teaching approach/features of reflective teaching approach was constructed and scores from the researcher and the independent rater were entered. The Index of Interrater Reliability was computed using Kappa Statistics in SPSS statistics 25.0 for Windows (IBM Corporation, 2017; Temple & Young, 2004). The Index of Interrater Reliability (Kappa) of the researcher and the independent rater was found to be 0.81. This value indicated agreement between the researcher and the independent rater in records kept by preschool teachers on reflective teaching approach/features of reflective teaching approach (Landis & Koch, 1977).

3.8 Procedure for data collection

The researcher sought permission and authority from the National Commission of Science, Technology and Innovation and the University of Nairobi to conduct the study in Molo Sub-County preschools. The researcher then visited the Office of the Sub-County Commissioner and Sub-County Education Office to inform them of the study and a go-ahead was given. The pilot study preceded the main study and ran for three months. Seven preschools were in the pilot study, and six preschools in the treatment group measured the study hypotheses. One preschool was the control group. All procedures for the main study mirrored the pilot study.

For the main study, the researcher visited the sampled preschools and delivered copies of the introduction letter (Appendix I), informed them of the training (importance, dates and venue) and issued them with DESSA forms to be

administered to the children within a week before the training. The training was done in plenary followed by monthly individual teacher follow ups: On day one, all the teachers in the treatment group learnt about the history of reflective teaching approach, according to Dewey (1933) and Schön (1987), the cyclic nature of reflective teaching approach based on Kolb's model (1984). In the second day, teachers learnt about the background and importance of preschool children's social emotional competences in the competence-based curriculum. They also learnt how a reflective teaching approach should be used to teach social and emotional competences and opportunities found to reinforce them in the course of the day.

In the main study, for the next 5 days, teachers in each of 5 preschools of the 8 preschools in the treatment group teachers were taught a feature of reflective teaching approach. The features were the use of:- action research, reflective journals, peer review, theoretical literature and learners' feedback. For every preschool, the teachers learned how a feature of reflective teaching approach should be used to deliver explicit lessons on children's social emotional competences and find opportunities for learners to strengthen their use during the day in the competence-based curriculum. The training was done through lectures, demonstration, and simulation.

In the first preschool, teachers were trained to do classroom research through action research, by identification of preschool children's social emotional problems and finding solutions through research. This was done by modeling the classrooms as 'laboratory' for teaching and learning. In this 'laboratory' they would use and experiment with different materials and activities. Further, they would use available resources to find solutions to class problems for example, the internet, textbooks,

journals, magazines, and their colleagues. They were also trained how to document problems, solutions and action plans in order to reflect upon them as well as constantly strive to unite theory and practice.

In the second preschool, teachers were trained to use reflective journals by documenting important ideas and significant events (successes, problems, and self-critique) on preschool children's social emotional competences. Further, they were taught how to track classroom activities and record the effects of these activities and think critically and reflect on such activities. Finally, they were trained how to find solutions to social emotional competences problems from the internet, textbooks, journals, and magazines as well as from their colleagues and hence improve teaching awareness and effectiveness.

In the third preschool, teachers were trained to use peer review through discussions with colleagues on preschool children's social emotional competences problems. They were also asked to discuss and analyse lessons on social emotional competences with colleagues via pre-observations (before the lessons), observation of the actual lessons and post-observations (after the lesson). Furthermore, they were taught how to share ideas by creating a culture of trust and empowerment with their colleagues. Lastly, they were taught to document important issues on social emotional competences in order to facilitate reflection for self-improvement.

In the fourth preschool, teachers were trained on how to use theoretical literature, through use of peer-reviewed educational literature as an authoritative lens to illuminate the teaching of children's social and emotional competences. They would use theoretical literature to name their practice and find solutions to children's social

emotional competences. This would hence enlarge their teaching landscape and reflect, think and be effective.

In the fifth preschool, the teachers were taught how to use learners' feedback in order to have accurate information regarding what learners are learning. This would occur through, children's one-on-one interviews, children focus groups, classroom assessments, classroom evaluations, and the use of the Critical Incident Questionnaire. They were asked to use the children's feedback to explore teaching/learning, reflect and act effectively.

In the remaining 3 preschools, teachers were trained for 3 days on how to deliver explicit lessons on social emotional competences for preschool children and to find opportunities for learners to strengthen their use during the day. This was through combining action research, reflective journals, peer review, theoretical literature, and the use of learners' feedback in the competence-based curriculum (Brookfield, 1995/2002; Hume, 2009; Ulla, Berrea & Acompanado, 2017; Varner & Peck, 2003).

In respective preschools, the researcher made monthly follow up to guide the teachers and in the last week, the third month, the researcher issued the preschool teachers with the second set of DESSA forms and asked them to administer them to the children within a week (Appendix II). Documentary analysis (Appendix V) and semi-structured interviews (IV) were conducted in the last week of the study. All the procedures followed in the treatment groups were done in 8 control preschools except for teachers' training on reflective teaching approach. This was to enable comparisons of children's mean scores in both the treatment and control groups.

3.9 Procedure for data analysis

DESSA results are reported as *T*-Scores (Lebuffe, Shapiro & Naglieri, 2014). Test of significance was done using Analysis of Covariance (ANCOVA) in SPSS statistics version 25.0 for Windows (IBM Corporation, 2017). ANCOVA blends analysis of variance and regression, and evaluates whether population means of a dependent variable are equal based on a categorical variable called treatment while controlling nuisance variables (covariates). Inclusion of the covariate in the model increases the power to detect group differences. In order to use the ANCOVA test; the assumption of homogeneity of variance and homogeneity of regression slopes must be met and were therefore conducted using SPSS statistics version 25.0 for Windows (Field, 2009; Miller & Chapman, 2001).

Data gathered by semi-structured interview schedules were analysed manually and in relation to the question statement posed to a preschool teacher participant, and the answers provided. For the documentary analysis form, the researcher and the independent rater scored the available records on reflective teaching approach/features of reflective teaching approach documented by teachers. A table of presence and absence of records was constructed and average values for the researcher and the independent rater were calculated by hand. A maximum value indicating very intense activity was set and agreed upon. Available records related to action research, reflective journals, peer review, theoretical literature, and use of learners' feedback were then collected. A score of zero indicated the absence of a given record. Data presentations were tabular and descriptive with reference to previous research studies by scholars and researchers in reflective teaching approach and preschool children's social emotional competences.

3.10 Ethical consideration

The National Commission of Science, Technology and Innovation Guidelines for Ethical Conduct of Biomedical Research Involving Human Subjects (2004) were followed (NCSTI, 2014). Teachers and parents who are the significant adults in these children's lives gave consent. The researcher asked the teachers not to disclose the identity of children who took part in the study. This was to ensure the protection, confidentiality, and anonymity of the children who took part in the study without affecting the quality of the results (BERA, 2011).

CHAPTER FOUR

FINDINGS, ANALYSIS, PRESENTATIONS AND INTERPRETATIONS

4.1 Introduction

This chapter presents data analysis on the effect of teachers' reflective teaching approach on preschool children's social emotional competences. The demographic variables for the study sample are followed by the findings of the study. They are arranged under various sub-headings according to the research objectives: Descriptive statistics are shown in mean scores and standard deviations, followed by assumptions of ANCOVA for the test of assumption of homogeneity of variance and the test of homogeneity of regression slopes and analysis of covariance (ANCOVA), scores for each of the social emotional domains for a given reflective teaching variable are presented in tables, analysed, and interpreted. Documentary analysis forms and semi-structured interview schedules are also analysed and presented descriptively. The findings obtained from semi-structured interview schedules and documentary analyses are used to make meaning of the differences in mean scores and statistically significant differences obtained from the treatment and control groups.

4.2 Demographic variables of the study sample

Demographic variables of the study were analysed before analyses of data on the effect of teachers' reflective teaching approach on preschool children's social emotional competences. This was in order to understand the characteristics of the participants in the sample and hence enable better inferences to be made in relation to the findings for the effect of teachers' reflective teaching approach on preschool children's social emotional competences in the study population. A total of 32

teachers with 558 children in Pre-Primary 2 were participants. These figures were arrived at after 13 children dropped out of the study for various reasons, among them were prolonged absenteeism, illness, and preschool transfers.

Pre-Primary 2 classes were chosen for the study for the reason that the teachers had spent considerable time with them than those in Pre-Primary 1 and therefore knew them better. According to British Educational Research Association (2004), this size was considered adequate and more participants would have not offered additional insights. Table 1 shows the number of preschools, preschool children and teachers in the sample by category.

Table 1

Number of Preschools, Preschool Children and Teachers in the Sample by Category

Category of preschool	Preschools	Children	Teachers
Public preschools	7	227	14
Private preschools	9	331	18
Total	16	558	32

According to Table 1, few public preschools were in the study sample (n=7) compared to private preschools (n=9). There were few children participants in public preschools (n=227) compared in the private preschools (n=331). There were 14 teachers in public preschools while 18 teachers were in private schools. According to Borg and Gall (1989) the sample size meets the population proportionality sampling rule, making up to 10% of the total population. Table 2 shows the distribution of participants in treatment groups and control groups.

Table 2

Number of Preschools, Preschool Children and Teachers in the Treatment and Control Groups

Preschool groups	Preschools	Children	Teachers
Treatment groups	8	269	16
Control groups	8	289	16
Total	16	558	32

Table 2 shows that a total of 16 preschools were in the study sample, 8 were in the treatment groups while 8 were in the control groups. The numbers of preschool children participants in the treatment groups were 269 while 289 were in the control groups. A total of 16 school teachers received treatment (training in reflective teaching approach/features of reflective teaching approach) while 16 preschool teachers were in the control group (did not receive training in reflective teaching approach/features of reflective teaching approach). Table 3 shows how teachers varied in their teaching experiences.

Table 3

Number of Years of Preschool Teachers' Experience by Percentage

Years of teaching	Number of teachers	Percentage
>1	5	15.6
1-4	21	65.6
<5	6	18.8
Total	32	100.0

According to Table 4, five teachers, making up 15.6 % of the study sample had less than a year of teaching experience while 21 teachers, making up 65.6% had teaching experience of between one to four years and 6 teachers, making up 18.8% had teaching experience of more than five years. This shows that the majority 84.4% (n=32) of the teachers had more than one-year teaching experience and were

considered competent at assessing preschool children's social emotional competences.

4.3 Action Research in Reflective Teaching Approach and Preschool Children's Scores in Social Emotional Competences

The study sought to examine whether teachers' action research affects preschool children's social emotional competences**.** The hypothesis of the study was:

H_o1: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use action research and those who do not.

For the objective to be achieved, a total of 71 children and 4 teachers participated in measuring the hypothesis; 35 children and 2 teachers were in the treatment group while 36 children and 2 teachers were in the control group. The treatment group was referred to as the action research group. The group that was not intervened was referred to as the control group. DESSA was used to obtain children's social emotional competences scores which were converted to *T*-scores before and after three months teachers' training. The training was based on action research for the teaching of children's social emotional competencies through explicit lessons and to find opportunities for them to strengthen their use during the day. Action research group and control group, DESSA pre-test and post-test *T*-scores are shown in Table 4.

Table 4

Action Research and Control Groups' DESSA Pre-test and Post-test T-scores

Action research group DESSA pre-test
34,38,39,44,45,42,49,44,48,54,46,46,45,47,50,49,49,50,48,47,49,40,57,48,51,58,52, 57, 59,48,46,47,45,55,55
Action research group DESSA post-test
42,36,43,45,46,46,50,48,47,47,48,52,50,50,49,52,51,49,50,48,57,47,65,56,55,60,58, 62, 61,50,48,49,42,60,62
Control group DESSA pre-test
39,40,36,39,41,39,46,38,40,47,42,47,45,44,47,46,50,51,46,47,49,52,48,54,51,56,50, 54, 49, 53,55,50,58,59,56,59
Control group DESSA post-test
35,33,39,45,41,41,43,44,49,46,46,45,48,47,49,47,51,50,49,47,49,52,48,53,52,54,52, 57,50,57,42, 40, 52,55,60,59

Table 4 shows the DESSA pre-test and post-test in *T*-scores from the action research group (n-35) and control group (n-36).

Preschool children's social emotional competence scores obtained before teachers' training were treated as pre-test and those obtained at the end of the study were referred to as a post-test. Table 5 presents children's social emotional competences mean scores and standard deviations in *T*-scores for the action research group and control group.

Table 5

Children's Mean Scores and Standard Deviations in Social Emotional Competences for Action Research and Control Groups

		N	Mean	Std. Deviation	Minimum	Maximum
Dessaposttest	action research	35	50.8857	6.56538	36.00	62.00
	Control	36	47.9722	6.24493	33.00	60.00
	Total	71	49.4085	6.52594	33.00	62.00
Dessapretest	action research	35	48.0286	5.70080	34.00	59.00
	Control	36	47.8611	6.33427	36.00	59.00
	Total	71	47.9437	5.98781	34.00	59.00

Table 5 displays SPSS descriptive statistic output for DESSA pre-test and post-test mean scores in *T*-scores for the action research and control groups. The control group had 47.861 at pre-test and 47.972 at post-test while the action research group had 48.029 at pre-test and 50.886 at post-test. The mean score difference between pre-test and post-test was 2.857 and 0.111 for the action research group and control group respectively. The action research group had higher mean scores at both time points. The greater mean score difference for the treatment group could be attributed to the use of action research by teachers in the group.

Action research group and control group levels of children's scores in social emotional competences in relation to the number of children in each group before and after intervention are shown in Table 6. Levels of children's social emotional competences were grouped as follows: Children in need for instructions scored 40 *T*-scores and below, typical children scored between 41 and 59 *T*-scores, while strengths children scored 60 *T*-scores and above.

Table 6

Levels of Children's Scores in Social Emotional Competences Before and After 3 Months Intervention for Action Research and Control Groups

Children's social emotional competency level	Action research group		Control group	
	Before treatment	After 3 months of treatment	Before Treatment	After 3 months of no treatment
Need for instructions	3	1	6	4
Typical	32	28	30	31
Strengths	0	6	0	1
Total number of children	35	35	36	36

Analysis of Table 6 indicates that 3 children in the action research group were in need for instructions by scoring 40 *T*-scores and below in the DESSA pre-test; of these, 2 transited to the typical level after the intervention. Before the treatment there were 32 typical

children in the action research group, where 6 transited to the strengths level after the intervention. There were no strengths in this group before the intervention. In the control group, 2 of the children transited from need for instructions to the typical level and 1 transited from the typical level to the strengths level without the intervention. There were more transitions in the action research group towards the strengths level compared to the control group which could be attributed to the use of action research by teachers in this group. The treatment group had 35 children while in the control group were 36 children.

To determine whether the mean score of the action research group was not statistically different from the control group, an ANCOVA test was carried out. To test whether the underlying assumption of homogeneity of variance for ANCOVA had been met, Levene's test of equality of error variance was conducted in order to test the null hypothesis that the error variance of the dependent variable was equal across groups as shown in Table 7.

Table 7

Levene's Test of Equality of Error Variances for Action Research and Control Groups

Dependent Variable: dessaposttest

F	df1	df2	Sig.
1.54	1	69	.696

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 7 presents an SPSS evaluation of error variances between the action research group and the control group DESSA post-test scores. The error variances are not significantly different, F (1, 69) = 1.54, p >0.05. The assumption of homogeneity of variance was not violated. To find out whether there was an interaction between the

outcome (post-test DESSA *T*-scores) and the covariant (pre-test DESSA *T*-scores) in the group (action research group and the control group) a test of the assumption of homogeneity of regression slopes was carried out as shown in Table 8.

Table 8

Test of Homogeneity of Regression Slopes for Action research and Control groups

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2004.593[a]	3	668.198	45.844	.000	.672
Intercept	66.411	1	66.411	4.556	.036	.064
Group	19.050	1	19.050	1.307	.257	.019
group * dessapretest	34.041	1	34.041	2.335	.131	.034
Error	976.562	67	14.576			
Total	176306.000	71				
Corrected Total	2981.155	70				

a. R Squared = .672 (Adjusted R Squared = .658)

Table 8 indicates that the source (labeled group* dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes. Results indicate that there was no significant interaction of regression slopes in the group (action research group and control group), F (1, 67) =2.335 $p > .05$. Parallelism was not violated.

To test the effect of action research on social emotional competences in preschool children while covarying for social emotional competences before intervention; an ANCOVA test was conducted as shown in Table 9.

Table 9

ANCOVA Analysis for the Effect of Action Research on Children's Scores in Social Emotional Competences

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1970.552[a]	2	985.276	66.296	.000	.661
Intercept	79.470	1	79.470	5.347	.024	.073
Dessapretest	1819.912	1	1819.912	122.456	.000	.643
Group	136.226	1	136.226	9.166	.003	.119
Error	1010.603	68	14.862			
Total	176306.000	71				
Corrected Total	2981.155	70				

a. R Squared = .661 (Adjusted R Squared = .651)

According to Table 9, the group source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 2981.155 units. The model accounted for 1970.552 units of which the pre-test scores accounted for 1819.912 units. Action research accounted for 136.226 units. The effect size $\eta 2 = .119$ (partial Eta squared) indicated that 11.9% of the variance of post-test DESSA scores was associated with the use of action research. This is considered a medium effect (Howell, 2007). The model accounted for 66.1% of the observed variation.

The group source (labeled group on the SPSS output) evaluates the H_o1 that the means scores of the action research group and the control group are equal. The results of the analysis indicate that there was a significant effect of action research on preschool children's social emotional competences after controlling for the effect of teaching social emotional competences without action research, F (1, 68) = 9.166,

$p < .05$, *partial* $\eta 2 = .119$.

Post-test DESSA scores in the action research group, indicated that the significant mean difference in this group was caused by the intervention, compared to the control group as shown in Table 9. The eight of domains mean strength in the social emotional competences domain mean scores are tabulated in Table 10.

Table 10

Mean Scores of the Eight Social Emotional Competences Domains for Action Research Group

	Pre-test DESSA	Post-test DESSA	Mean Difference
Social awareness	49.74	52.57	2.83
Relationship skills	48.83	51.88	3.05
Self-management	48.71	51.68	2.97
Goal-directed behavior	48.09	50.71	2.62
Self-awareness	47.57	50.94	3.37
Decision making	47.43	49.80	2.37
Optimistic thinking	47.23	50.51	3.28
Personal responsibility	46.63	48.81	2.18
Mean	48.03	50.89	2.86

From Table 10, the mean scores of each of the eight domains for the action research group at pre-test DESSA and post-test DESSA are ranked. Social awareness had the highest mean *T* score at 52.57 at DESSA post-test, followed by relationship skills with a mean of 51.88 *T* score, personal responsibility tailed with a mean of 48.81 *T* score. In terms of mean score differences between the DESSA pre-test and DESSA post-test, the domain self-awareness, had the greatest mean score difference of 3.37 followed by optimistic thinking and relationship skills at 3.28 and 3.05 *T* scores respectively. Personal responsibility had the least mean difference of a 2.18 *T* score. Teachers' action research from these results appears to increase learners' self-awareness when compared to the other seven social emotional competences domains.

Records from the action research group and control group were analysed. Table 11 shows the average score obtained by the researcher and a trained independent rater. The researcher and the independent rater scored from available documents on action research for children's social emotional competences from a teacher participant. A table of presence and absence of records on action research was constructed and average values for the researcher and the independent rater were calculated by hand. A maximum score of 30.0 was required- indicating very intense action research. Each of the six entries had a maximum score of 5.0.

Table 11

Analysis of Records Kept by Action Research Group and Control Group on Children's Social Emotional Competences

Action research records	Action research group's score	Control group's score
Textbook-related research records on children's social emotional competences	3.0	2.0
Internet-related records on children's social emotional competences	4.0	0.0
Research related to action research in relation to children's social emotional competences from:		
Textbooks	4.0	0.0
Internet	4.0	0.0
Other sources (magazines, journals, and newspapers)	2.0	1.0
Challenges of teaching children's social emotional competences using action research	4.0	0.0
Score	21.0	3.0
Maximum score	30.0	30.0

Table 11 displays that teachers in the treatment group had action research entries in their notebooks. There were records important for this study, especially textbooks and internet searches on social emotional competences through action research. The teachers had a

list of websites dealing with preschool children social emotional competences and developmental issues, for example, www.csefel.uiuc.edu , www.kidmatter.edu.au and www.bullyingnoway.gov.au. There were records on research-based practices for early childhood programmes from the Center on the Social and Emotional Foundations for Early Learning (CSEFEL) among others. These included strategies that promote and/or support social emotional competences using local resources. One of the teachers had notes for teaching social emotional competences through play, dance, pretend play, drama, emoji feeling faces, happy, and scared activities. The other teacher had notes on conflict and anger management, and how to help children develop emotional awareness and emotional coping skills. Both teachers had notes gleaned through action research from the internet. One of the teachers documented important requirements for teachers' research using action research: *A notebook- for observations and insights, Smartphone to search the internet, to take photographs and capture videos in order to reflect on them later and a colleague to network with.*

They also made notes from internet searches on challenges faced while teaching social and emotional competences. One of the teachers noted that most of her preschool children in her catchment area live in poverty. In relation to this, she noted what she had found in her searches: *Poverty can come along with children's uncertainty and unmet needs; children in poverty can experience trauma which can bring feelings of hopelessness and affect relationships and interactions; children living in poverty can have problems in emotional regulation and attention*. Along the same notes, she had written what she was doing (her insights to solving the problem) *Strategies from CESLFEL that promote social emotional learning for children living in poverty.*

The teacher also noted: *Children are learning social emotional competences better in activities such as pretend play; happy, sad and scared activities songs, and dances.* The treatment group had a score of 21 (70.00%) away from a maximum of 30. Teachers in the control group had very little documentation compared to the action research group. Only one teacher had some notes on social emotional competences from the recommended texts and a newspaper. The control group had a mean score of 3 (10.00%) away from a maximum score of 30. According to Larrivee (2009) on attributes of a reflective practitioner; teachers should take action to align with new knowledge and understanding as shown by teachers' records in the treatment group.

Preschool teachers' interviews were conducted after the DESSA post-test in both groups. The teachers had a positive attitude towards the use of action research (researching and actualizing opportunities to teach social emotional competences) which facilitated them to keep avast with the learning of social emotional competences and their own growth as teachers in practice. They stated that they researched on internet, through textbooks, and other sources, namely, magazines and journals in the teaching and learning of children's social emotional competences. They stated that they did this through explicit lessons and strove to find opportunities for children to reinforce the competences throughout the day. They further said that this was done in the classroom, eating, resting time as well as in the field and learners appeared to show improvement in the competences with continuous follow-ups. Further, they stated that action research facilitated them to retrospect on their teaching, which enabled them to deal with children with social emotional challenges.

Furthermore, the teachers stated that they felt empowered when they searched and stumbled upon solutions when faced with familiar and unfamiliar children's social

emotional complexes as pointed out by Elliott (2005) and Farrell (2004), that action research from their viewpoint, was more of a grounded curriculum theory; where theories are established through practice. According to these scholars, theory from their viewpoint arose in the context of the practice, and its merit was determined in practice, and these brought about the harmony of theory and practice. They stated that by employing action research, they were able to identify social emotional competences as they evolved in class and found ways of fostering them. This was in line with Farrell (2004) who argued that the purpose and intent of action research is not the development of universal principles to be applied in all teaching situations but to build and verify a coherent explanation of how a particular classroom works. One of the teachers stated: *Before training, I did know I could be a teacher-researcher. I am constantly looking up new ideas on children's social emotional competences on the internet using my phone, text books, and asking those who know.*

In the same breath, preschool teachers in this treatment group pointed out that they were able to recall and follow children's social emotional competences for example; optimistic thinking, personal responsibility, goal-directed behavior among others through their observation and children's overall feedback. They stated that they found reflective teaching approach was a valuable tool in implementing the competence-based curriculum in class and in school in general. Teachers in the control class appeared not conversant with the use of action research in reflective teaching approach. They were weak in relation to children's social emotional competences are concerned and stated they largely focused on the academic component.

They appeared not to be keen in teach children's social emotional competences and doing so using only the recommended text and left social emotional aspects of children to mature largely on their own. Further, they did not state how they used explicit lessons to teach children's social emotional competences or mark out opportunities for learners to strengthen the competences. This could explain the lower mean scores obtained by this group which were significantly lower than the treatment group. According to teachers in the treatment group, the children improved in social emotional competences and this was confirmed by the higher mean score as compared to the control group.

This study echoes what has been studied by scholars and researchers in reflective teaching approach and action research (Cochran-Smith & Lyle, 1993; Elliott, 2005; Farrrell, 2004; Reason & Bradbury, 2001; Whitehead, 1993). It also indicates that the use action research in reflective teaching approach could be effective in teaching preschool children's social emotional competences through the growth and development of teachers in their profession and children's social emotional cognitive schema.

4.4 Reflective Journals in Reflective Teaching Approach and Preschool Children's Scores in Social Emotional Competences

The study sought to determine whether teachers' reflective journals affect preschool children's social emotional competences. The hypothesis of the study was: **H_o2: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use reflective journals and those who do not.**

In order to achieve the stated objective, a total of 70 children and 4 teachers participated in measuring the hypothesis; of these, 33 children and 2 teachers were in

the treatment group while 37 children and 2 teachers were in the control group. The treatment group was referred to as the reflective journal group. The group that was not intervened was referred to as the control group. DESSA was used to obtain children's social emotional competences scores which were converted to *T*-scores before and after three months after training. Teachers in the reflective journals group were trained on use of reflective journals to teach children's social emotional competencies through explicit lessons and to find opportunities for learners to strengthen their use in course of the day. Reflective journal group and control group DESSA pre-test and post-test scores are shown in Table 12.

Table 12

Reflective Journal Group and Control Group DESSA Pre-test and Post-test in T-scores

Reflective journals group DESSA pre-test
35,37,36,37,39,40,42,43,44,45,45,46,46,48,47,48,49,44,50,51,52,52,50,53,53,53,54 55, 56, 58,53,53,54
Reflective journals group DESSA post-test
44,40,41,30,48,43,45,47,47,48,53,49,51,50,50,51,50,51,48,50,52,52,53,53,53,55,56 60, 57, 57,59,60,61
Control group DESSA pre-test
36,41,40,48,42,45,43,44,45,45,46,45,46,47,48,48,50,50,49,50,50,51,52,52,53,52,53 54,54,55,56,56,59,59,39,36,51
Control group DESSA post-test
42,42,42,40,42,47,47,47,46,46,47,44,46,47,48,52,40,52,47,51,52,49,52,48,53,45,53 50,54,55,56,50,59,60,50,32,59

Table 12 shows the DESSA pre-test and post-test in *T*-scores from the reflective journals group (n-37) and control group (n-36).

Table 13 presents preschool children's social emotional competences mean scores and standard deviations in *T*-score for the reflective journals group and the control group.

Table 13

Children's Mean Scores and Standard Deviations in Children's Social Emotional Competences for Reflective Journals Group and Control Group

		N	Mean	Std. Deviation	Minimum	Maximum
Dessaposttest	reflective journals	33	50.4242	6.43249	30.00	61.00
	Control	37	48.4324	5.85729	32.00	60.00
	Total	70	49.3714	6.17187	30.00	61.00
Dessapretest	reflective journals	33	47.5152	6.30536	35.00	58.00
	Control	37	48.3784	5.82786	36.00	59.00
	Total	70	47.9714	6.02885	35.00	59.00

Table 13 presents the SPSS descriptive statistic output for DESSA pre-test and post-test T-scores for reflective journals and control groups. The control group had a mean score of 48.378 at pre-test and 48.432 at post-test while the reflective journals group had 47.515 at pre-test and 50.424 at post-test. The mean score difference between pre-test and post-test was 2.909 and 0.054 for the reflective journals group and the control group respectively. The reflective journals group had a lower mean score than the control group in the pre-test but achieved a higher mean score than the control group in the post-test. The greater mean score difference for the treatment group could be attributed to the use of reflective journals by the teachers in the group.

The reflective journals group and the control group levels of children's scores in social emotional competences before and after the intervention with the use of reflective journals are shown in Table 14. Levels of children's social emotional

competences were grouped as follows: Children in need for instructions scored 40 *T*-scores and below, typical children scored between 41 and 59 *T*-scores while strengths children scored 60 *T*-scores and above.

Table 14

Levels of Children's Scores in Social Emotional Competences Before and After 3 Months Intervention for Reflective Journals and Control Groups

Children's social emotional competency level	Reflective journals group		Control group	
	Before treatment	After 3 months of treatment	Before Treatment	After 3 months of no treatment
Need for instructions	6	2	3	2
Typical	27	29	34	33
Strengths	0	2	0	1
Total number of children	33	33	37	37

Analysis of Table 14 indicates that 6 children in the reflective journals group were in need for instructions by scoring 40 T-scores and below in the DESSA pre-test; of these, 3 transited to the typical level after the intervention. Before treatment there were 27 typical children in the group where; 2 transited to strengths level after the intervention. There were no strengths in the group but after the reflective journals intervention, the group had 2 strengths' children. In the control group, two children transited: one from the need for instructions to the typical level and another one from the typical level to the strengths level. There were more transitions in the treatment group towards the strengths' level compared to the control group which could be attributed to the use of reflective journals. The treatment group had 33 children while in the control group there were 37 children.

To determine whether the mean score of the reflective journal group was not statistically different from the control group an ANCOVA test was carried out. To test the underlying assumption of the homogeneity of variance for ANCOVA had

been met, Levene's test of equality of error variance was conducted to test the null hypothesis that the error variance of the dependent variable was equal across groups as shown in Table 15.

Table 15

Levene's Test of Equality of Error Variances for Reflective Journals and Control Groups

Dependent Variable: dessaposttest

F	df1	df2	Sig.
0.415	1	68	.522

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 15 shows the SPSS evaluation of error variances between the reflective journal group and the control group. The error variances are not significantly different, F (1, 68) = 0.415, p >0.05. The assumption of homogeneity of variance was not violated. To find out whether there was an interaction between the outcome (post-test DESSA *T*-scores) and the covariant (pre-test DESSA *T*-scores) in the group (reflective journal group and control group) a test of assumption of homogeneity of regression slopes was carried out as shown in Table 16.

Table 16

Test of Homogeneity of Regression Slopes for Reflective Journals and Control Groups

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1755.902[a]	3	585.301	44.278	.000	.668
Intercept	110.478	1	110.478	8.358	.005	.112
Group	1.825	1	1.825	.138	.711	.002
group * dessapretest	7.658	1	7.658	.579	.449	.009
Error	872.441	66	13.219			
Total	173256.000	70				
Corrected Total	2628.343	69				

a. R Squared = .668 (Adjusted R Squared = .653)

As seen in Table 16 the source (labeled group dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes. Results indicate that there was no significant interaction of regression slopes in the group (reflective journal and control groups), F (1, 66) =0.579, $p > .05$. Parallelism was not violated.

To test the effect of reflective journals on social emotional competences in preschool children's social emotional competences while covarying for their social emotional competences before intervention an ANCOVA test was conducted, as shown in Table 17.

Table 17

ANCOVA Analysis for the Effect of Reflective Journals on Children's Scores in Social Emotional Competences

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1748.244[a]	2	874.122	66.545	.000	.665
Intercept	108.908	1	108.908	8.291	.005	.110
Dessapretest	1679.043	1	1679.043	127.822	.000	.656
Group	126.496	1	126.496	9.630	.003	.126
Error	880.099	67	13.136			
Total	173256.000	70				
Corrected Total	2628.343	69				

a. R Squared = .665 (Adjusted R Squared = .655)

According to Table 17, the source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 2628.343 units. The model accounted for 1748.244 units of this variation, of which; the pre-test scores accounted for 1679.043 units. The use of reflective journals accounted for 126.496 units. The effect size $\eta 2 = .12.6$ (partial Eta squared) indicated a 12.6 % of the variance of the post-test DESSA scores was associated with the use of the reflective journals on children's social emotional competences which is considered medium (Howell, 2007). The model accounted for 66.5% of the observed variation (R squared).

The group source (labeled group on the SPSS output) evaluates the $H_o 2$ that the means scores of the reflective journals group and the control group are equal. The results of the analysis indicate the use of reflective journals had a significant

effect on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without the use of reflective journals, F (1, 67) = 9.630, $p < .05$, *partial* $\eta 2 = .126$.

DESSA post-test scores in the reflective journal group indicated that the significant mean difference was caused by the intervention in comparison to the control group as shown in Table 17. The eight domains' mean strength in the social emotional competences composite for each domain means scores are tabulated in Table 18.

Table 18

Mean Scores of the Social Emotional Competences Domains for Reflective Journal Group

	Pre-test DESSA	Post-test DESSA	Mean Difference
Relationship skills	48.79	52.07	3.28
Social-awareness	48.15	51.15	3.03
Self-management	48.12	50.85	2.79
Self-awareness	47.85	50.64	2.73
Goal-directed behavior	47.58	49.88	2.30
Decision making	47.15	50.27	3.12
Optimistic thinking	46.97	49.88	2.91
Personal responsibility	45.51	48.62	3.11
Total	47.51	50.42	2.91

From Table 18, the mean scores of each of the eight social emotional competences domains for reflective journal group at pre-test DESSA and post-test DESSA are ranked. Relationship skills had the highest mean *T* score of 52.07 at DESSA post-test, followed by social awareness with a mean of 51.15 *T* score, personal responsibility tailed with a mean of 48.62 *T* score. In terms of mean score differences between DESSA pre-test and DESSA post-test, the domain relationship skills, had the greatest mean score difference of 3.28 followed by decision making and personal responsibility at 3.12 and 3.11 *T* scores respectively. Goal-directed behaviour had the

least mean difference of a 2.30 *T* score. The use of reflective journals from these result, appears to make learners relate better with others compared to the other seven social emotional competences domains.

Records from the reflective journals group and control group were analysed. Table 19 shows the scores obtained by the researcher and a trained independent rater. The researcher and the independent rater scored from available documents on reflective journals for children's social emotional competences from a teacher participant. A table of presence and absence of records on the use of reflective journals was constructed and average scores from the researcher and the independent rater were calculated by hand. A maximum score of 11.0 was required for the three listed entries- indicating intense use of reflective journals. The first entry had a score of 1.0 while the other two items each had a maximum score of 5.0.

Table 19

Analysis of Records Kept by Reflective Journals Group and Control Group on Children's Social Emotional Competences

Reflective Journals' records	Reflective journal group's score	Control group's score
A journal	1.0	0.0
Entries on children's social emotional competences	4.0	0.0
Particular entries of children's social emotional challenges	3.0	0.0
Score	8.0	0.0
Maximum score	11.0	11.0

Table 19 displays that teachers in the treatment group had a reflective journal, entries on children's social emotional competences, and entries of children with social emotional challenges. The reflective journals were well structured with daily entries

within the templates and sub-entries within the template, for example, they described significant events that happened in their classes. The teachers also had sub-entries where they interpreted the events in relation to what they thought, felt, or realized and then noted the outcome of their interpretation. In one of the reflective journals, a teacher noted that most of the children in her class related poorly with one another by forming particular groups and/or friends while some had no friends. In the interpretation part, the teacher noted. *Search to find out can be done to have a warmer class, children have friends and groups are friends to each other*. For the outcome the teacher had noted: *Arrange partners of my choice and alternate them with children's own choices; nurture a climate of kindness; allow more talk time interposed with stories, riddles, and dances; observe and teach children how to solve conflict. Teach them how to relate with each other by hanging charts and pictures on the warmth of friends and groups of friendships*.

In a different template, she had entries on challenges experienced when teaching children's social emotional competences. She described the problem: *Children with serious challenges in social emotional competences: - do not get along with others and some use improper language and a few do not calm down easily*. In the outcome section, she wrote: *Spending one-on-one time with children in order to build trust, suggest friends for them as well as from their suggestion; tell them in advance of the consequences of using improper language and celebrate their new friends and good behaviour*. The reflective journals group had a mean score of 8.0 (72.72%) from a maximum of 11.0. Teachers in the control group had none of the documents under investigation with a mean score of 0.0 (0.00%) from a maximum score of 11.0. Presence of these documents and required entries in the treatment group

indicated actual employment of reflective journals in teaching children's social emotional competences.

Preschool teachers' interviews were conducted after the DESSA posttest in both groups. Teachers in the treatment group stated that they taught social emotional competences through explicit lessons and always tried to find opportunities for children to strengthen their use during the day. They said that children improved in these competences when they employed reflective journals as opposed to ordinary methods where they relied on memory. They had a positive attitude towards the use of reflective journals (as compared to more routine writing) which they stated facilitated them to keep track of children's learning of social emotional competences and their teaching. They stated that reflective journals assisted them to reflect and follow up on children with social emotional challenges as pointed out by Thompson and Pascal (2012) that reflective journals promote reflective thought that leads to more effective teaching.

Further, they said that review of reflective journals helped them to search for answers when faced with unfamiliar children's social emotional problems and to learn as found out by Hubb and Brand (2005) that review of journal entries encourages personal growth and professional development. Teachers were also able to assess the quality of learners' comprehension and mastery of the competences as well as children's effective response to social emotional learning. Along the same line, they stated that on reviewing the reflective journals they were able to recall and follow-up on the various domains in social emotional competences; for example, optimistic thinking, personal responsibility, goal-directed behavior among others and teach them as well as they implemented the competence-based curriculum.

Teachers in the control group were weak in the use of reflective journals in reflective teaching approach. They did not appear to keep track of teaching and learning of children's social emotional competences apart from memory which could explain the lower mean scores obtained by this group. It was also significantly different from the treatment group. According to teachers in the treatment group, by keeping a reflective journal, the children's social emotional competences improved and this was confirmed by the superior scores in the group compared to the control group.

This study supports what has been studied by scholars and researchers in reflective teaching (Gorman, 1998; Heichel & Miller, 1993; Thompson & Pascal, 2012) and points out that the use of reflective journals in reflective teaching approach could be an important tool in teaching preschool children's social emotional competences. This could be possible through the professional growth and development of preschool teachers' as well as the social emotional cognitive schema of preschool children.

4.5 Peer Review in Reflective Teaching Approach and Preschool Children's Scores in Social Emotional Competences

The study sought to establish whether teachers' peer review affects preschool children's social emotional competences means scores. The hypothesis of the study was:

H_o3: There is no significant difference in preschool children's mean scores in social emotional competences between teachers who use peer review and those that do not.

To achieve the objective, a total of 69 children and 4 teachers participated in measuring the hypothesis; of these, 36 children and 2 teachers were in the treatment

group and 33 children and 2 teachers were in the control group. The treatment group was referred to as the peer review group. The group that was not intervened was referred to as the control group. The DESSA was used to obtain children's social emotional competences scores which were converted to *T*-scores before and after three months after training. Teachers in the treatment group were trained on peer review in reflective teaching approach to teach children's social emotional competencies through explicit lessons and to find opportunities for learners to strengthen their use during the day. Monthly follow-ups were made before DESSA post-test. The Peer review group and the control group DESSA pre-test and post-test scores are shown in Table 20.

Table 20

Peer Review Group and Control Group DESSA Pre-test and Post-test in T-scores

Peer review group DESSA pre-test
42,38,39,40,40,40,40,42,39,45,44,44,45,46,47,44,47,48,48,52,52,52,53,54,54,54, 56,54,57,58,50,60,59,50,38,49
Peer review group DESSA post-test
32,40,43,37,46,45,49,43,49,50,48,49,49,48,48,52,49,50,54,54,52,53,59,54,55,56, 58,56,59,59,61,59,55,60,49,45
Control group DESSA pre-test
56,40,39,41,49,42,42,43,48,42,43,44,43,39,47,48,47,40,54,49,48,48,48,43,51,50, 50,46,54,54,55,58,60
Control group DESSA post-test
50,35,36,35,40,47,45,51,48,51,47,50,41,35,50,53,44,43,52,50,44,49,51,45,52,54, 57,51,56,45,50,50,60

Table 20 shows the DESSA pre-test and post-test in *T*-scores from the peer review group (n-36) and control group (n-33).

Children's social emotional competences mean scores and standard deviations in *T*-scores for the peer review group and the control group as shown in Table 21.

Table 21

Children's Mean Scores and Standard Deviations in Social Emotional Competences for Peer Review Group and Control Group

		N	Mean	Std. Deviation	Minimum	Maximum
Postestdessa	peer reviews	36	50.6944	6.57553	32.00	61.00
	Control	33	47.4848	6.33503	35.00	60.00
	Total	69	49.1591	6.56332	32.00	61.00
Pretestdessa	peer reviews	36	47.7667	6.49437	38.00	60.00
	Control	33	47.3030	5.69257	39.00	60.00
	Total	69	47.4928	6.13721	38.00	60.00

Table 21 presents the SPSS descriptive statistic output for DESSA pre-test and post-test *T*-scores for peer review and control groups. The control group had 47.303 at pre-test and 47.485 at post-test while the peer review group had 47.667 at pre-test and 50.694 at post-test. The mean score difference between pre-test and post-test was 3.027 and 0.182 for the peer review group and the control group respectively. The peer review group had higher mean scores in both time points. The greater mean score difference for the intervention group could be attributed to the use of peer review by teachers in this group.

The peer review group and the control group levels of children's scores in social emotional competences in relation to the number of children in each group before and after intervention are shown in Table 22. Levels of children's social emotional competences were grouped as follows: Children in need for instructions children scored 40 *T*-scores and below, typical children scored between 41 and 59 *T*-scores while strengths children scored 60 *T*-scores and above.

Table 22

Children's Scores in Social Emotional Competences Before and After 3 Months Intervention for Peer Review and Control Groups by Number of Children

Children social emotional competency level	Peer review group		Control group	
	Before treatment	After 3 months of treatment	Before treatment	After 3 months of no treatment
Need for instruction	8	1	2	1
Typical	27	30	30	31
Strengths	1	5	1	1
Total number of children	36	36	33	33

Analysis of Table 22 indicates that 8 children in the peer review group were in need for instructions by scoring 40 *T*-scores and below in the DESSA pretest; of these, 5 transited to the typical level after the intervention. Before the treatment there were 27 typical children in the group where 1 transited to the strengths level after the intervention. One child was at the strengths level in this group before the treatment making a total of 2 children in the group. In the control group, one child transited from the need for instructions to the typical level. There were no other transitions in the control group. There were more transitions in the treatment group towards strengths compared to the control group that could be attributed to the use of peer review by teachers in that group. The control group had 33 children while in the treatment group were 36 children.

In order to determine whether the mean score of the treatment group was statistically equal to the control group, an ANCOVA test was carried out. To test the underlying assumption of homogeneity of variance for ANCOVA had been met, Levene's test of equality of error variance was conducted to test the null hypothesis that the error variance of the dependent variable is equal across the groups as shown in Table 23.

Table 23

Levene's Test of Equality of Error Variances for Peer Review and Control Groups

Dependent Variable: dessaposttest

F	df1	df2	Sig.
2.652	1	67	.108

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 23 shows the SPSS evaluation of error variances between the peer review group and the control group. The error variances are not significantly different, F (1, 67) = 0.108, p >0.05. The assumption of homogeneity of variance was not violated. To find out whether there was an interaction between the outcome (post-test DESSA *T*- scores) and the covariant (pre-test DESSA *T*-scores) in the group) a test for the assumption of homogeneity of regression slopes was carried in order to meet one of the ANCOVA assumptions as shown in Table 24.

Table 24

Test of Homogeneity of Regression Slopes for Peer Review and Control Groups

Dependent Variable: postestdessa

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1659.031[a]	3	553.010	26.352	.000	.549
Intercept	182.169	1	182.169	8.681	.004	.118
Group	.229	1	.229	.011	.917	.000
group * pretestdessa	1.018	2	1.018	.048	.826	.001
Error	1364.041	65	20.985			
Total	169477.000	69				
Corrected Total	3023.072	68				

a. R Squared = .549 (Adjusted R Squared = .528)

In Table 24, the source (labeled group* dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes in the group (peer review and control group). Results indicate that there was no significant interaction of regression slopes, F (1, 65) =0.48, $p > .05$.

To test the effect of peer review on preschool children's social emotional competences while covarying for their social emotional competences before intervention an ANCOVA test was conducted as shown in Table 25.

Table 25

ANCOVA Analysis for the Effect of Peer Review on Children's Scores in Social Emotional Competences

Dependent Variable: postestdessa

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1658.014[a]	2	829.007	40.082	.000	.548
Intercept	183.419	1	183.419	8.868	.004	.118
Pretestdessa	1489.739	1	1489.739	72.028	.000	.522
Group	139.607	1	139.607	6.750	.012	.093
Error	1365.059	66	20.683			
Total	169477.000	69				
Corrected Total	3023.072	68				

a. R Squared = .548 (Adjusted R Squared = .535)

According to Table 25, the source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 3023.072 units. The model accounted for 1658.014 units of this variation, of which; the pre-test scores accounted for 1489.419 units. Peer review accounted for 139.607 units. The effect size η2= .093

(partial Eta squared) indicated 9.3% of the variance of post-test DESSA scores was associated with the use of peer review on children's social emotional competences which is considered medium (Howell, 2007). The model accounted for 54.8% of the observed variation (R squared).

The group source (labeled group on the SPSS output) evaluates the H_o3 that the means scores of the peer review group and the control group are equal. The results of the analysis indicate there was a significant effect of peer review on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without use of peer review, $F(1, 66) = 6.750$, $p < .05$, *partial* $\eta 2 = .093$.

DESSA post-test scores in the peer review group indicated that a significant mean difference was caused by the intervention, compared to the control group as shown in Table 25. The eight domains mean strengths in the social emotional competences composite for each domain means scores are tabulated in Table 26.

Table 26

Mean Scores of the Eight Social Emotional Competences Domains for Peer Review Group

	Pre-test DESSA	Post-test DESSA	Mean Difference
Relationship skills	48.61	51.95	3.34
Social awareness	48.56	52.11	3.55
Self-management	48.34	51.21	2.87
Goal-directed behavior	47.93	50.89	2.96
Self-awareness	47.63	50.35	2.72
Optimistic thinking	47.32	50.58	3.26
Decision making	46.87	49.41	2.54
Personal responsibility	46.83	48.97	2.14
Total	47.77	50.69	2.92

From the Table 26, mean score of each of the eight domains at the pre-test DESSA and post-test DESSA are ranked. Social awareness had the highest mean *T* score of 52.11 at DESSA post-test, followed by relationship skills with a mean of 51.95 *T* score while personal responsibility tailed with a mean of 48.97 *T* score. In terms of mean score differences between the DESSA pre-test and DESSA post-test, the domain of social awareness, had the greatest mean score difference of 3.55 followed by relationship skills and optimistic thinking at 3.34 and 3.26 *T* scores respectively, while personal responsibility had the least mean difference of 2.14 *T* scores. The use of peer review from these results appears to make learners more socially aware compared to the other seven social emotional competences domains.

Records from the peer review group and control group were analysed. Table 27 shows the average values obtained by the researcher and a trained independent rater. The researcher and the independent rater scored the available documents on peer review for children's social emotional competences from a teacher participant. A table of presence and absence of records on peer review was constructed and average scores for the researcher and the independent rater were calculated by hand. A maximum score of 11.0 was required for the three listed entries- indicating intense use of peer review. The first entry had a score of 1.0 and the remaining two each had a maximum score of 5.0.

Table 27

Analysis of Records Kept by Peer Review Group and Control Group on Children's Social Emotional Competences

Peer review records	Peer review group's score	Control group's score
Peer review notebook for children's social emotional competences	1.0	0.0
Notes with colleague critique on children's social emotional teaching/learning	3.0	0.0
Notes related searches to children's social emotional teaching/learning	3.0	0.0
Score	7.0	0.0
Maximum score	11.0	11.0

Table 27 displays that the peer review group was rated higher than the control group for documents important for this study. The teachers in the treatment group had a notebook with templates for lessons pre-observation, observation and post-observation discussions. In the pre-observation template the teachers wrote about the content to be taught, for example, social awareness: materials resources required for a lesson like charts, pictures, toys, and balls; what was expected of the children; what they had taught earlier, and how they expected the lesson to fit in.

In the observation template were statements directed to her peer reviewer. *Am I able to communicate what is social awareness?* With a section, written: *Needs improvement, satisfactory and exceptional*; which was remarked by her colleague. Other statements included: *Have I put enough activities in the lesson? Have I assessed the children?* There were remarks from her colleague such as: *More effort required in embracing the whole class and be lively when delivering your lessons*. In

the post-observation template was a section where the teacher discussed with her colleague the lesson; its successes, what could have been done differently and what should be done differently next time as the action plan. For example: *Need to assure children, by embracing them, building confidence, and motivating them to interact with each other*. The peer review group had a mean score of 8.0 (72.72%) to a maximum score of 11.0 while the control group had 0.0 (0.0%) to the same maximum of 11.0. The presence of these documents and required entries in the treatment group was evidence for the use of peer review in comparison to the control group which had nothing related to peer review records.

Teachers in the treatment group stated that they taught social emotional competences through explicit lessons and found opportunities for children to strengthen their use during the day. They stated that from their observations, children improved on social emotional competences when they made regular follow-ups. They found peer review important in teaching social emotional competences and in the implementation of competency-based curriculum as a whole. This was because they were able to examine their assumptions about teaching based on the feedback they received from their colleagues as pointed out Cunningham (2001) that reflective teaching approach demands that teachers deliberate and analyse with others the problems they come upon in their classroom which could translate to enriched future classroom encounters.

They further elaborated that their relation with colleagues had improved and children as well had also improved in other areas including academics and field activities. This was in line with what other scholars and researchers, for example, Clark (2001) urged that teacher reflection groups and conversation circles on pedagogy facilitated

teachers to examine their teaching through the critical eyes of other teachers which helped them to examine their assumptions about teaching and cushion feelings of being alone. Their statements also captured Reinman (1999) who urges that reflective teaching includes identifying personal meaning and/or significance of a classroom or school situation and this includes the disclosure and examination of personal feelings.

According to Miller (1991), talking to colleagues about a problem they have commonly increase the teacher's likelihood of tripping through an explanation that fitted with what happens in a particular teaching situation. It also provided them with images and interpretations of their own practices which were echoed by teachers in the treatment group. They stated that what they thought were unique children's social emotional problems in their classes were wide spread and observed by other teachers. They said that knowing they were not alone helped them feel relieved of unwarranted feelings of incompetence. Further, these teachers echoed Brookfield (2005) on the insights that opened up during reviews, where he pointed out that fostering critical conversation about teaching with trusted colleagues yields useful insights and helped break down the shroud of silence in which teaching practice is wrapped. The finding also supports Thumbi, Gatumu and Muriithi (2016) that peer mentoring in reflective teaching improves children's academic performance.

The researcher further noted that teachers' experiences in the treatment group are broadly similar in relation to teaching children's social emotional competences even while they differ from others in detail. The diversity of experiences helped them to explore alternatives and open new ways of seeing and thinking about teaching children's social emotional competences. Although teachers in the control group

stated that they taught social emotional competences almost on a daily basis; they appeared to lack the methodology and outlets to solve the numerous social emotional challenges experienced by the children. According to these teachers, they solved children's social emotional problems in isolation than with colleagues. Further, they stated that they felt they required training in peer review to enable them to handle better children's social emotional competences which could explain the lower mean scores obtained by this group which was significantly different from the treatment group.

This study finds what has been studied by scholars and researchers in reflective teaching (Brookfield, 2002; Clark, 2001; Cunningham 2001; Gatumu, Muriithi & Thumbi, 2014; Liberman & Miller, 1991; Osterman & KottKamp, 1993; Reinman, 1999) available in the literature and points out that use of peer review in reflective teaching approach could be a major factor in teaching children's social emotional competences. The significant improvement in children social emotional scores could be attributed to the growth and development of children's social emotional cognitive schema and teachers in their profession.

4.6 Use of Theoretical Literature in Reflective Teaching approach and Preschool Children's Scores in Social Emotional Competences

The study sought to establish whether the use of theoretical literature affects preschool children's means scores in social emotional competences in classes where it was used and in classes where it was not. The hypothesis of the study was:

H_o4: There is no significant difference in preschool children's mean scores in social emotional competences between preschool teachers' who use theoretical literature and those that do not.

In order to achieve this objective, a total of 65 children and 4 teachers participated in

measuring the hypothesis; of these, 29 children and 2 teachers were in the treatment group and 36 children and 2 teachers were in the control group. The treatment group was referred to as the theoretical literature group. The group that was not intervened was referred to as the control group. DESSA was used to obtain children's social emotional competences scores which were converted to *T*-scores before and after three months after training. Teachers in the treatment group were trained on the use of theoretical literature to teach children's social emotional competencies through explicit lessons and to find occasions for children to strengthen their use all through the day. Monthly follow-ups were made before the DESSA post-test. Literature review group and control group DESSA Pre-test and post-test children's scores are shown in Table 28.

Table 28

Literature Review Group and Control Group DESSA Pre-test and Post-test in T- scores

Literature review group DESSA pre-test scores
34,34,38,38,40,44,45,40,46,48,45,48,46,47,47,48,47,49,48,50,49,53,52,51,55,56,53,57,58
Literature review group DESSA post-test scores
45,35,39,38,44,43,44,45,46,48,50,50,55,52,52,50,50,49,56,52,54,55,56,58,56,58,57,59,60
Control group pre-test DESSA scores
39,37,42,41,43,43,44,45,51,46,43,47,46,44,49,49,51,45,47,43,51,51,46,55,54,55,52,56,51,57,50,60,61,50,39,55
Control group post-test DESSA scores
35,36,48,42,43,45,46,40,51,48,48,49,50,49,50,50,45,51,47,54,51,54,49,54,53,54,44,54,50,51,58,56,60,41,40,46

Table 28 shows the DESSA pre-test and post-test in *T*-scores for the literature review group (n-29) and control group (n-36).

Table 29 shows children's social emotional competences mean scores and standard deviations in *T*-scores for the theoretical literature group and the control group.

Table 29

Children's Mean Scores and Standard Deviations in Social Emotional competences for Theoretical Literature Group and Control Group

		N	Mean	Std. Deviation	Minimum	Maximum
Dessapostest	literature review	29	50.2069	6.61373	35.00	64.00
	Control	36	48.3889	5.74843	35.00	61.00
	Total	65	49.2000	6.16745	35.00	60.00
Dessapretest	literature review	29	47.1034	6.31520	34.00	58.00
	Control	36	48.2778	5.95512	37.00	61.00
	Total	65	47.7538	6.09823	34.00	61.00

Table 29 presents the SPSS descriptive statistic output for DESSA pre-test and post-test *T*- scores for theoretical literature and control groups. The control group had 48.278 at pre-test and 48.389 at post-test while the theoretical literature group had 47.103 at pre-test and 50.207 at post-test. The mean score difference between pre-test and post-test was 3.104 and 0.111 for the theoretical literature group and control group respectively. The theoretical literature group had lower mean scores in the pre-test but had a higher mean score in the post-test. The greater mean score difference for the treatment group could be attributed to the use of theoretical literature by teachers in that group.

Theoretical literature group and control group' children's social emotional transitions before and after intervention with theoretical literature are shown in Table 30. Levels of children's social emotional competences were grouped as follows: children in need for instructions scored 40 *T*-scores and below, typical children scored between 41 and 59 *T*-scores while strengths children scored 60 and above *T*- scores.

Table 30

Level of children's Scores in Social Emotional Competences Before and After 3 Months Intervention for Theoretical Literature Group and Control Group

Level of children's social emotional competences	Theoretical literature group		Control group	
	Before treatment	After 3 months of treatment	Before treatment	After 3 months of no treatment
Need for instruction	5	1	2	1
Typical	23	25	33	34
Strengths	1	3	1	1
Total number of children	29	29	33	33

Table 30, displays that 5 children in the theoretical literature group were in need for instructions level by scoring 40 *T*-scores and below in the DESSA pretest; of these, 4 transited to the typical level after the intervention. Before treatment, there were 23 typical children in the group where two of the children transited to strengths level after the intervention. There was one child in the strengths level in this group before treatment but after theoretical literature intervention, the class had 3 children. In the control group, only one of the children transited from the need for instructions to the typical level. There were no other transitions in the control group. There were more transitions in the treatment group towards the strengths level compared to the control group which could be attributed to the use of theoretical literature by teachers in this group. The control group had 36 children while in the treatment group were 29.

To determine whether the mean score of the treatment group was statistically equal to the control group an ANCOVA test was carried out. To test the underlying assumption of homogeneity of variance for ANCOVA had been met, Levene's test of equality of error variance was conducted as shown in Table 31.

Table 31

Levene's Test of Equality of Error Variances for Theoretical Literature and Control Groups

Dependent Variable: dessapostest

F	df1	df2	Sig.
1.008	1	63	.319

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 31 represents the SPSS evaluation of error variances between theoretical literature and control groups. The error variances are not significantly different, F (1, 63) = 1.008, p >0.05. The assumption of homogeneity of variance was not violated. To find out whether there was an interaction between the post-test DESSA *T*- scores and the covariant (pre-test DESSA *T*-scores) in the groups, a test for the assumption of homogeneity of regression slopes was carried out as shown in Table 32.

Table 32

Test of Homogeneity of Regression Slopes for Theoretical Literature and Control Groups

Dependent Variable: dessapostest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1594.929[a]	3	531.643	38.632	.000	.655
Intercept	123.022	1	123.022	8.939	.004	.128
Group	24.241	1	24.241	1.761	.189	.028
group * dessapretest	40.512	1	40.512	2.944	.091	.647
Error	839.471	61	13.762			
Total	159776.000	65				
Corrected Total	2434.400	64				

a. R Squared = .655 (Adjusted R Squared = .638)

According to Table 32, the source (labeled group* dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes in the groups. Results indicate that there was no significant interaction of regression slopes, F (1, 61) =2.944, $p > .05$. Parallelism was not violated.

To test the effect use of theoretical literature on social emotional competences in preschool children while covarying for their social emotional competences before intervention an ANCOVA test was conducted as shown in Table 33.

Table 33

ANCOVA Analysis for the Effect of Theoretical Literature on Children's Scores in Social Emotional Competences

Dependent Variable: dessapostest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1554.417[a]	2	777.208	54.759	.000	.639
Intercept	128.972	1	128.972	9.087	.004	.128
Dessapretest	1501.331	1	1501.331	105.778	.000	.630
Group	120.778	1	120.778	8.510	.005	.121
Error	879.983	62	14.193			
Total	159776.000	65				
Corrected Total	2434.400	64				

a. R Squared = .639 (Adjusted R Squared = .627)

According to Table 33, the source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 2434.400 units. The model accounted for 1554.417 units of this variation, of which; the pre-test scores accounted for 1501.331 units. Theoretical Literature accounted for 120.778 units. The effect size η2= .121 (partial Eta squared) indicated that 12.1% of the variance of the post-test DESSA scores was associated with the use of theoretical literature on children's social emotional competences which is considered medium (Howell, 2007). The model accounted for 63.9 % of the observed variation (R squared).

The group source (labeled group on the SPSS output) evaluates the H_o4 that the means scores of the theoretical literature group and the control group are equal. The results of the analysis indicate that the use of theoretical literature had a significant effect on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without the use of theoretical literature, $F(1, 62)= 8.510$, $p < .05$, *partial* $\eta 2 = .121$.

Post-test DESSA scores in the literature review group indicated that a significant mean difference was caused by the intervention, compared to the control group as shown in Table 33. The eight domains mean strengths in the social emotional competences composite for each domain means scores are tabulated in Table 34.

Table 34

Mean Scores of the Eight Social Emotional Competences Domains for Literature Review Group

	Pre-test DESSA	Post-test DESSA	Mean Difference
Self-management	48.07	50.81	2.74
Social awareness	47.62	51.19	3.57
Relationship skills	47.25	50.77	3.52
Goal-directed behavior	47.15	50.53	3.38
Self-awareness	47.37	50.22	2.85
Optimistic thinking	47.00	49.89	2.89
Decision making	46.34	49.61	3.27
Personal responsibility	46.03	48.65	2.62
Total	47.10	50.21	3.11

From Table 34, the mean score of each of the eight domains at the pre-test DESSA and post-test DESSA are ranked. Social awareness had the highest mean *T* score of 51.19 at DESSA post-test, followed by self-management with a mean of 50.81 *T* score while personal responsibility tailed with a mean of 48.65 *T* score. In terms of mean score differences between the DESSA pre-test and DESSA post-test, the domain of social awareness, had the greatest mean score difference of 3.57 followed

by relationship skills and goal-directed behavior 3.52 and 3.38 *T* scores respectively. Personal responsibility had the least mean difference of a 2.62 *T* score. The use of theoretical literature from these results appears to make learners able to manage themselves better compared to the other seven social emotional competences domains.

Records from the theoretical literature group and control group were analysed. Table 35 shows the average values obtained by the researcher and a trained independent rater. The researcher and the independent rater scored available documents on theoretical literature for children's social emotional competences from a teacher participant. A table of presence and absence of records on theoretical literature was constructed and average values for the researcher and the independent rater were manually calculated. A maximum score of 11.0 was required for the three listed entries. This indicated intense use of theoretical literature. The first entry had a score of 1.0 and the remaining two each had a maximum score of 5.

Table 35

Analysis of Records Kept by Theoretical Literature Group and Control Group on Children's Social Emotional Competences

Theoretical literature records	Theoretical literature group's score	Control group's score
Theoretical literature notebook for children's social emotional competences	1.0	0.0
Relevant literature on children's social emotional competences	4.0	0.0
Literature on mitigating children's social emotional challenges	4.0	0.0
Score	9.0	0.0
Maximum Score	11.0	11.0

Table 35 displays that the theoretical literature group was rated higher than the control group on the documents outlined and important for the study. Teachers in the treatment group had noted down solutions for children's social emotional competences in their classes especially those in living difficult circumstances. One teacher noted that most of her children in class were growing up in poverty. The teacher noted from her theoretical literature review: *They are usually not ready socially and emotionally when they enter formal schooling; they delay in catching up socially and emotionally and do not communicate well.* The teacher had gone on to find solutions to mitigate these problems for example, she wrote: *Being sensitive, being firm, and give a lot of activities on social emotional learning*. Another teacher had short notes from what she had found out on the significance of teaching children's social emotional competences. She noted: *Less challenging behaviour, warm class, school success, and better citizens*. Both teachers had notes for encouraging, supporting and nurturing social emotional competences. The theoretical literature group had a mean of 9.0 (81.8%) from a maximum score of 11.0. The control group had no written records on literature review. The presence of this document and required entries in the treatment group was evidence for the use of theoretical literature in comparison to the control group.

Preschool teachers' interviews were conducted in both the treatment group and the control group. Teachers in the treatment group were in agreement that they taught social emotional competences through explicit lessons and strove to find opportunities for children to strengthen their use in the day. They said that theoretical literature facilitated them to define their practice by illuminating areas that they felt were not well conversant, especially in social emotional aspects of teaching children. By reading the literature on others teachers' depiction of crises anxieties and

dilemmas in children social emotional learning they were able to put their own problems on social emotional competences into perspective as found by Jalongo and Isenberg (1995).

Further, teachers in this group agreed that what they thought were problems found only in their class, were a result of externally created situations that were outside their control. They said that this helped them to combat feelings of incompetence and reasonably tackle social emotional competences complexes exhibited by children in their classes. According to these teachers, reflective teaching approach facilitated them to be more effective in the implementation of competence-based curriculum.

The teachers in the treatment group stated that they used theoretical literature to teach preschool children's social emotional challenges. They said that literature and theory facilitated them to enlarge their vocabulary, define and comprehend their teaching practice. Their statements supported Brookfield (1995), who urged that theoretical literature offers various viewpoints on familiar situations and becomes a psychological survival requisite, through which teachers come to appreciate the connection between their private predicaments in class and the broader political processes. A teacher stated: *All along, I did not know most of my problems in class could be solved by solutions already in the literature. I have been reading theoretical literature since training and I am a better teacher now for my class and in implementing the competence-based curriculum.*

Teachers in the control group stated that they taught and followed up with children having social emotional problems. However, they said that when confronted with children's social emotional challenges, they did not use theoretical literature. They pointed out that they had not identified theoretical literature as a way out for teachers

in children's social emotional problems. According to these teachers, they followed the laid out procedures of teaching without realizing that most of the problems they faced could be found in the literature for teachers in similar circumstances and theory. This could explain the lower mean scores obtained by this group which were significantly different from the treatment group. This study confirms what has been studied by scholars and researchers on the use of theoretical literature in reflective teaching (Jalongo & Isenberg, 1995; Brookfied, 2002). The results of this study indicate that the use of theoretical literature in a reflective teaching approach could be a valuable tool in teaching preschool children's social emotional competences. The superior scores in the treatment group could be ascribed to the growth and development of preschool teachers in their profession and the social emotional cognitive schema of preschool children.

4.7: Use of Learners' Feedback in Reflective Teaching and Preschool Children's Scores in Social Emotional Competences

The study sought to establish whether the use of learners' feedback affects children's means scores in social emotional competences in classes where it is used and in classes where it is not. The hypothesis of the study was:

H_o5: There is no significant difference in preschool children's mean scores in social-emotional competences between teachers who use learners' feedback and those that do not.

For this objective to be achieved, a total of 73 children and 4 teachers participated in measuring the hypothesis; of these, 37 children and 2 teachers were in the treatment group and 36 children and 2 teachers were in the control group. The treatment group was referred to as the use of learners' feedback group. The group that was not intervened was referred to as the control group. DESSA was used to obtain children's social emotional competences scores which were converted to *T*-scores

before and after three months after training. They were also taught to teach children's social emotional competencies through explicit lessons and to find opportunities for learners to strengthen their use all day long. Monthly follow ups were made before the DESSA post-test. The use of the learners' feedback group and control group children's pre-test and post-test DESSA scores are shown in Table 36.

Table 36

Use of Learners' Feedback and Control Groups DESSA Pre-test and Post-test in T-Scores

Learners' feedback group DESSA pre-test *T*-scores
40,40,41,42,40,45,42,44,50,45,53,50,50,47,47,47,52,53,52,53,48,50,50,53,56,56,57,59,58, 60, 45, 40 39, 42,42,42,42
Learners' feedback group DESSA post-test *T*-scores
40,45,33,42,49,48,47,45,53,52,55,46,48,49,49,50,51,51,5160,54,55,56,53,56,58,56,58,60, 60, 55, 53 34, 52,50,52,46
Control group DESSA pre-test *T*-scores
39,40,40,42,43,42,43,42,43,49,47,49,46,49,47,48,48,50,50,55,52,49,52,54,53,52,49,50,54, 47,56,57,55,50,49,50
Control group DESSA post-test *T*-scores
40,39,49,40,42,41,39,43,49,46,48,48,49,48,43,48,48,50,50,51,50,49,51,60,53,52,53,54,51, 44,56,5560,45,49,44

Table 36 shows the pre-test and post-test DESSA scores in *T*-scores from the control group (n-36) and the use learners' feedback group (n-37).

Table 37 shows children's social emotional competences mean scores and standard deviations in *T*-scores for use of learners' feedback to illuminate teachers' practice group and the control group. Table 28 shows children's social emotional competences mean scores and standard deviations in *T*-scores for the use of learners' feedback group and the control group.

Table 37

Children's Mean Scores and Standard Deviations in Social Emotional Competences for Use of Learners' Feedback Group and Control Group

		N	Mean	Std. Deviation	Minimum	Maximum
Dessaposttest	learners' feedback	37	50.5946	6.38340	33.00	60.00
	Control	36	48.3611	5.38450	39.00	60.00
	Total	73	49.4384	5.98838	33.00	60.00
Dessapretest	learners' feedback	37	47.8919	6.17695	39.00	60.00
	Control	36	48.2511	4.80567	39.00	57.00
	Total	73	48.1233	5.50995	39.00	60.00

Table 37 displays the SPSS descriptive statistic output for DESSA pre-test and post-test *T*-scores for use of learners' feedback and control groups. The control group had 48.251 at pre-test and 48.361 at post-test while the treatment group had 47.892 at pre-test and 50.595 at post-test. The mean score difference at pre-test was 2.7027 and 0.1111 in the post-test for the treatment group practice and control group respectively. The use of learners' feedback group had a lower mean score in the pre-test but had higher mean score in the post-test. The greater mean score difference at post-test could be attributed to the use of learners' feedback by teachers in that group.

Use of learners' feedback group and control group levels of children's scores in social emotional competences before and after the intervention with the use of learners' feedback are shown in Table 38. Levels of children's social emotional competences were grouped as follows: Children in need for instructions scored 40 *T*-scores and below, typical children scored between 41 and 59 *T*-scores while

strengths children scored 60 and above *T*-scores.

Table 38

Children's Scores in Social Emotional Competences Before and After 3 Months Intervention for Use of Learners' Feedback and Control Groups

Level of children's social emotional competences	Learners' feedback group		Control group	
	Before treatment	After 3 months of treatment	Before treatment	After 3 months of no treatment
Need for instruction	4	1	3	3
Typical	32	33	33	32
Strengths	1	3	0	1
Total number of children	37	37	36	36

Analysis of Table 38 indicates that 4 children in the use of learners' feedback group were in need of instructions by scoring 40 *T*-scores and below in the DESSA, of this, 3 transited to the typical level after the intervention. Before treatment there were 32 typical children in the class where 2 transited to the strengths level after intervention. There were one strengths child in this group before the treatment but after the use of learners' feedback to illuminate teachers' practice intervention, the group had children as 3 strengths. In the control group, only one of the children transited from the typical level to the strengths level after intervention. There were no other transitions in the control group. There were more transitions in the treatment group towards strengths level compared to the control group which could be attributed to the use of learners' feedback by teachers in this group. The treatment group had 37 children while in the control group were 36 children.

To determine whether the mean score of the treatment group was statistically equal to the control group an ANCOVA test was carried out. To test the underlying assumption of homogeneity of variance for ANCOVA had been met, Levene's test

of equality of error variance was conducted to test the null hypothesis that the error variance of the dependent variable is equal across groups as shown in Table 39

Table 39

Levene's Test of Equality of Error Variances for Use Learners' Feedback and Control Groups

Dependent Variable: dessaposttest

F	df1	df2	Sig.
2.246	1	71	.138

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 39 presents the SPSS evaluation of error variances between the use of learners' feedback group and control group. The error variances are not significantly different, F (1, 71) = 2.246, p >0.05. The assumption of homogeneity of variance was not violated.

To find out whether there was an interaction between the outcome and the covariant in the group (use of learners' feedback group and control group) a test of assumption of homogeneity of regression slopes was carried out as shown in Table 40.

Table 40

Test of Homogeneity of Regression Slopes for Use of Learners' Feedback Group and Control Group

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1528.799[a]	3	509.600	33.387	.000	.592
Intercept	81.851	1	81.851	5.363	.024	.072
Group	19.734	1	19.734	1.293	.259	.018
group * dessapretest	10.208	2	10.208	0.668	.416	.010
Error	1053.174	69	15.263			
Total	181005.000	73				
Corrected Total	2581.973	72				

a. R Squared = .592 (Adjusted R Squared = .574)

According to Table 40, the source (labeled group* dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes in the group (use of learners' feedback group and control group). Results indicate that there was no significant interaction of regression slopes, F (1, 69) =0.668, $p > .05$. Parallelism was not violated.

To test the effect of the use of learners' feedback group on social emotional competences in preschool children while covarying for their social emotional competences before the intervention, an ANCOVA test was conducted as shown in Table 41.

Table 41

ANCOVA Analysis for the effect of Use of Learners' Feedback on Children's Scores in Social Emotional Competences

Dependent Variable: dessaposttest

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1518.595[a]	2	759.298	49.983	.000	.588
Intercept	104.901	1	104.901	6.905	.011	.090
Dessapretest	1418.292	1	1418.292	93.363	.000	.572
Group	135.035	1	135.035	8.889	.004	.113
Error	1063.377	70	15.191			
Total	181005.000	73				
Corrected Total	2581.973	72				

a. R Squared = .588 (Adjusted R Squared = .576)

As seen in Table 41, the source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 2581.973 units. The model accounted for 1518.595 units of this variation, of which; the pre-test scores accounted for 1418.292 units. The use of learners' feedback accounted for 135.035 units. The effect size $\eta 2 = .113$ (partial Eta squared) indicated that 11.3% of the variance of post-test DESSA scores was associated with the use of learners' feedback on children's social emotional competences which is considered medium (Howell, 2007). The model accounted for 58.8% of the observed variation (R squared).

The group source (labeled group on the SPSS output) evaluates the H_o5 that the means scores of the use of learners' feedback group and the control group are equal. The results of the analysis indicate that there was a significant effect on the use of learners' feedback on preschool children's social emotional competences after

controlling the effect of teaching social emotional competences without the use of learners' feedback to illuminate teachers' practice, $F(1, 70)= 8.889$, $p< .05$, *partial* $\eta 2 = .113$.

Posttest DESSA scores in the use of learners' feedback group indicated that the significant difference observed in the group was caused by the intervention, compared to the control group as shown in Table 41. The eight domains mean strengths in the social emotional competences composite for each domain are tabulated in Table 42.

Table 42

Mean Score of the Eight Social Emotional Competences Domains for Use of Learners' Feedback Group.

	Pre-test DESSA	Post-test DESSA	Mean Difference
Social awareness	49.35	52.32	2.97
Self-management	48.72	51.81	3.09
Relationship-skills	48.00	50.78	2.78
Goal-directed behavior	48.41	50.86	2.45
Self-awareness	47.76	50.49	2.73
Optimistic thinking	47.43	49.90	2.47
Decision making	47.35	49.79	2.44
Personal responsibility	46.10	48.81	2.71
Total	47.89	50.59	2.71

From Table 42, the mean scores of each of the eight domains for the use of learners' feedback group at pre-test DESSA and post-test DESSA are ranked. Social awareness had the highest mean of 52.32 *T* score at DESSA post-test, followed by self-management with a mean of 51.81 *T* score while personal responsibility tailed with a mean of 48.81 *T* score. In terms of mean score differences between DESSA pre-test and DESSA post-test, the domain self-management, had the greatest mean score difference of 3.09 followed by social awareness and relationship skills at 2.97 and 2.78 *T* scores respectively. Decision-making had the least mean difference of a

2.44 *T* score. The use of learners' feedback from these results, appear to make learners better at managing themselves compared to the other seven social emotional competences domains.

Records from the use of learners' feedback group and control group were analysed. Table 43 shows the average values obtained by the researcher a trained independent rater. The researcher and the independent rater scored from available documents on the use of learners' feedback for children's social emotional competences from a teacher participant. A table of presence and absence of records on the use of learners' feedback was constructed and average values for the researcher and the independent were calculated by hand. A maximum score of 11.0 was required for the three listed entries- indicating intense use of learners' feedback. The first entry had a score of 1 and the remaining two each had a maximum score of 5.0.

Table 43

Analysis of Records kept by Use Learners' Feedback Group and Control Group on Children's Social Emotional Competences

Use of learners' feedback records	Use of learners' feedback group's score	Control group's Score
Notebook for on use of learners' feedback to illuminate teachers' practice	1.0	0.0
Notes on learner's feedback to illuminate teaching and learning on social emotional competences	3.0	0.0
Positive/negative comments on challenges of teaching social emotional competences using learners' feedback	3.0	0.0
Score	7.0	0.0
Maximum Score	11.0	11.0

Table 43 displays that the use of learners' feedback group was rated higher than the control group on the documents outlined as important for this study. Teachers in the treatment group noted in their notebooks the methodologies they employed to get children's feedback while teaching social emotional competences. For example, they made notes on classroom assessments, children's evaluations, children focus groups, and children interviews.

On class assessment and evaluation at the end of the study period, a teacher had written: *More intense interaction among children, children are better at moving from one activity to another and challenging behavior is reduced.* The teacher also noted what she had observed after employing the use of learners' feedback to illuminate her practice: *Children are more open talking about themselves and their classmates; children are showing more confidence and are better at making friends.* The use of learners' feedback group had a mean of 7.0 (63.63%) from a maximum score of 11.0 while the control group did not have records on the use of learners' feedback and scored 0.0 (0.0%) from a maximum of 11.0. There was more evidence of the use of learners' feedback in the treatment group in contrast with minimal or non-structured the use of learners' feedback in the control group.

Interviews were conducted in both the treatment group and the control group. Teachers in the treatment group stated that they used learners' feedback to illuminate their practice which facilitated them to shape the way they taught children's social emotional competences. They stated that by examining children through the Critical Incident Questionnaire (Brookfield, 1995; Tripp, 1993) observing, listening and talking to them, they got important information which facilitated them to structure

social emotional learning/teaching. This assisted then to deal more accurately with the learning of social emotional competences as pointed out by Hammersly (1993).

A teacher in the treatment group stated the following when probed: *Now, I am more accurate in reading children's social emotional levels and I assist them by questioning them, observing, listening, and talking to them. A skill I didn't know before training. When children say: I have made more friends; I can now lead a song, I now want to be the boss in that play. I know they have learnt, and today I am moving together with them step by step as they mature socially and emotionally, and as I implement the competence-based curriculum*. Another teacher stated that she were able to teach the competences with less difficulty as children grappled with the difficulties of the outside world and the world within them as pointed out by Brookfield (2002) that this feedback constitutes teachers' primary pedagogical information and enables them to be critically reflective.

Teachers in the control group appeared distant in relation use of learners' feedback. The majority of them did not know that using learners' feedback could facilitate them to illuminate their practice for children's social emotional competences. They stated that the information they collected via learners' feedback was on academic performance and their abilities in drama, songs and dance without realizing that these were opportunities for them to foster social emotional competences. They stated that though they taught the competences; they were not trained on the use of learners' feedback in reflective teaching approach which could explain the lower mean scores obtained by this group that was significantly lower than the treatment group.

According to this study's findings, the use of learners' feedback improved children's social emotional competences and echoes what has been stated by scholars and researchers in reflective teaching in literature (Brookfield, 2002; Hammersly, 1993). This study findings point out that use of learners' feedback in a reflective teaching approach could be important in teaching children's social emotional competences. Higher and significantly different children's scores in the treatment group compared to the control group could be attributed the growth and development of their social emotional cognitive schema and professionally for teachers,

4.8: Reflective Teaching Approach and Preschool Children's Scores in Social Emotional Competences

The study sought to establish whether the use of features of reflective teaching approach affects children's means scores in social emotional competence in classes where they were used and in classes where it was not. Features of reflective teaching approach include action research, reflective journals, peer review, theoretical literature, and the use of learner's feedback to illuminate teachers' practice. The hypothesis of the study was:

H_o6: There is no significant difference in preschool children's mean scores in social emotional competences between teachers' who use reflective teaching approach and those that do not.

To achieve this objective, a total of 6 classes with 210 preschool children and 12 teachers took part in measuring the hypothesis; of these, 3 classes with 99 children and 6 teachers were in the treatment group while 3 classes with 111 children and 6 teachers were in the control group. The treatment group was referred to as the reflective teaching group. The group that was not intervened was referred to as the control group. DESSA was used to obtain children's social emotional competences

scores which were converted to *T*-scores before and after three months training. Teachers in the treatment group were trained on the reflective teaching approach to teach children's social emotional competencies through explicit lessons and to find opportunities for learners to strengthen their use during the day. Monthly follow-ups were made before the DESSA post-test. Reflective teaching group and control group DESSA Pre-test and post-test children's scores are shown in Table 44.

Table 44

Reflective Teaching and Control Groups DESSA Pre-test and Post-test in T-scores

Reflective teaching group DESSA pre-test
38,39,44,45,42,49,44,48,54,46,46,45,47,50,49,49,50,48,47,49,40,57,48,51,58,52,57 59,48,46,47,45,55,55,38,49,49,44,49,44,41,43,49,44,53,50,50,47,47,47,52,53,52,53 48,50,50,53,56,56,57,59,52,60,45,45,40,39,41,42,37,38,37,38,40,44,45,40,45,48,45 46,45,44,46,48,47,49,48,44,48,52,52,49,54,56,53,57,60
Reflective teaching group DESSA post-test
36,40,50,46,46,50,48,60,56,48,52,50,50,50,52,51,49,50,48,57,47,65,56,60,60,58,62 61,50,48,49,42,60,62,36,52,59,38,50,48,47,45,53,52,53,48,48,52,49,50,52,51,51,57 54,55,56,53,56,58,56,58,59,60,55,49,45,50,49,43,39,40,45,45,44,43,49,45,46,47,53 50,53,52, 55,50,55,48,51,44,53,55,55,56,54,58,57,59,65
Control group DESSA pre-test
40,39,40,39,42,41,47,39,42,50,45,48,46,47,49,46,50,51,46,47,49,52,48,54,51,56,50 54,49,53,58,5956,59,40,55,55,43,48,42,41,40,42,42,43,47,45,49,46,49,47,48,48,50 50,55,52,49,52,54,53,52,49,50,54,47,56,57,40,55,50,49,50,45,45,40,40,41,40,42,42 42,44,45,42,48,48,48,46,48,48,50,44,46,42,50,50,45,54,53,54,50,51,55,50,56,49,60 61,50,39,50
Control group DESSA post-test
40,39,40,45,41,41,43,44,49,46,46,45,48,47,49,47,51,50,49,47,49,52,48,53,52,54,52 57,50,57,52,55,60,59,33,42,40,45,49,37,47,42,40,45,39,54,49,45,47,52,43,52,48,48 44,55,49,44,55,61,50,48,51,54,46,47,58,50,49,60,52,45,50,48,45,40,36,48,42,42,44 45,50,44,47,47,48,49,48,49,49,51,50,52,53,54,55,49,50,52,50,54,46,55,50,56,58,60 60,50,40,46

Table 44 shows the pre-test and post-test DESSA scores in *T*-scores from the control group (n-111) and intervention group (n-99).

Table 45 shows children's social emotional competences mean scores and standard deviations in *T*-scores for the reflective teaching group and control group.

Table 45

Children's Mean Scores and Standard Deviations in Social Emotional Competences for Reflective Teaching Approach Group and Control Group

		N	Mean	Std. Deviation	Minimum	Maximum
Posttestdessa	reflective teaching	99	51.3333	6.09617	39.00	65.00
	Control	111	48.5586	5.60144	37.00	61.00
	Total	210	49.8667	5.98893	37.00	65.00
Pretestdessa	reflective teaching	99	47.9697	5.59784	33.00	60.00
	Control	111	48.1171	5.38979	35.00	61.00
	Total	210	48.0476	5.47614	33.00	61.00

Table 45 shows the DESSA *T*-scores mean scores for preschool children's social emotional competences. The control group had 48.117 at pre-test and 48.559 at post-test while the reflective teaching approach group had 47.970 at pre-test and 51.306 at post-test. The mean score difference between pretest and posttest was 3.36 and 0.441 for the reflective teaching approach group and control group respectively. The reflective teaching approach group had lower mean scores in the pre-test but had higher mean score in the post-test. The greater mean score difference for the reflective teaching approach group was attributed to the use of features of reflective teaching approach by teachers in this group.

Reflective teaching approach group and control group children's social emotional transitions before and after 3-month intervention with reflective teaching approach are shown in Table 46. Levels of children's social emotional competences were

grouped as follows: Children in need for instructions children scored 40 *T*- scores and below, typical children scored between 41 and 59 *T*-scores while strength children scored 60 and above *T*-scores.

Table 46

Children's Scores in Social Emotional Competences Before and After 3 Month Intervention for Reflective Teaching Approach and Control Groups

Level of children's social emotional competences	Reflective teaching approach group		Control group	
	Before treatment	After 3 months of treatment	Before treatment	After 3 months of no treatment
Need for instruction	12	5	8	6
Typical	84	85	97	96
Strengths	3	9	6	9
Total number of children	99	99	111	111

Table 46 shows that 12 children in the reflective teaching group classes were in need of instructions by scoring 40 T-scores and below in the DESSA pretest; of these, 7 transited to the typical level after the intervention. Before the treatment there were 84 typical children in these classes where 6 transited to the strengths level after the intervention. Before the treatment there were 84 typical children in these classes where 6 transited to the strengths level after the intervention. There were 3 strengths children in this group before the treatment but after the reflective teaching approach intervention, the classes had 9 strengths. In the control group, 2 of the children transited from the need for instructions to the typical level and 3 from the typical level to the strengths level. There were more transitions in the treatment group classes toward the strengths level compared to classes in the control group which could be attributed to the use of reflective teaching approach by in that group. The number of children in the treatment and control groups was 99 and 111 respectively.

To determine whether the mean score of the treatment group was statistically equal to the control group an ANCOVA test was carried out. To test the underlying assumption of homogeneity of variance for ANCOVA had been met, Levene's test of equality of error variance was conducted to test the null hypothesis that the error variance of the dependent variable is equal across groups as shown in Table 47.

Table 47

Levene's Test of Equality of Error Variances for Reflective Teaching Approach Group and Control Group

Dependent Variable: dessaposttest

F	df1	df2	Sig.
0.163	1	208	.687

Table 47 presents the SPSS evaluation of error variances between the reflective teaching approach group and control group. The error variances are not significantly different, F (1, 208) = 0.163, p >0.05. The assumption of homogeneity of variance was not violated.

To find out whether there was an interaction between the outcome and the covariant in the group (reflective teaching approach group and control group) the test of the assumption of homogeneity of regression slopes was carried out as shown in Table 48.

Table 48

Test of Homogeneity of Regression Slopes for Reflective Teaching Approach and Control Groups

Dependent Variable: posttestdessa

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4643.750[a]	3	1547.917	111.786	.000	.619
Intercept	296.883	1	296.883	21.440	.000	.094
Group	13.303	1	13.303	.961	.328	.005
group * pretestdessa	36.674	1	36.674	2.648	.105	.598
Error	2852.517	206	13.847			
Total	529700.000	210				
Corrected Total	7496.267	209				

a. R Squared = .619 (Adjusted R Squared = .614)

As can be seen from Table 48, the source (labeled group* dessapretest on the SPSS output) evaluates the underlying assumption of homogeneity of regression slopes in the group (reflective teaching approach group and control group). Results indicate that there was no significant interaction of regression slopes, F (1, 206) =2.648, p > .05. Parallelism was not violated.

To test the effect of reflective teaching approach on social emotional competences in preschool children while covarying for their social emotional competences before the intervention, an ANCOVA test was conducted as shown in Table 49.

Table 49

ANCOVA Analysis for the Effect of Reflective Teaching Approach on Children's Scores in Social Emotional Competencies

Dependent Variable: posttestdessa

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4607.076[a]	2	2303.538	165.040	.000	.615
Intercept	300.799	1	300.799	21.551	.000	.094
Pretestdessa	4204.178	1	4204.178	301.214	.000	.593
Group	438.647	1	438.647	31.427	.000	.132
Error	2889.191	207	13.957			
Total	529700.000	210				
Corrected Total	7496.267	209				

a. R Squared = .615 (Adjusted R Squared = .611)

According to Table 49, the source (labeled Corrected Total on the SPSS output) evaluates the total amount of variation to be explained as 7496.267 units. The model accounted for 4707.076 units of this variation, of which; the pre-test scores accounted for 4204.178 units. The reflective teaching approach accounted for 438.647 units. The effect size η2= .132 (partial Eta squared) indicated that 13.2%% of the variance of the post-test DESSA scores was associated with the use of reflective teaching approach on children's social emotional competences which is considered medium (Howell, 2007). The model accounted for 61.5% of the observed variation (R squared).

The group source (labeled group on the SPSS output) evaluates the H_o6 that the means scores of the reflective teaching approach group and the control group are

equal. The results of the analysis indicate that that there was a significant effect of the reflective teaching approach on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without reflective teaching approach, $F(1, 207)= 31.427$, $p < .05$, *partial* $\eta 2 = .132$.

DESSA Post-test scores in the reflective teaching approach group indicated that a significant mean difference was caused by the intervention, compared to the control group as shown in Table 49. The eight domains mean strengths in the social emotional competences for each domain means scores are tabulated in Table 50.

Table 50

Mean Score of the Eight Social Emotional Competences Domains for Reflective Teaching Approach Group.

	Pre-test DESSA	Post-test DESSA	Mean Difference
Social awareness	49.11	52.34	3.23
Relationship skills	48.69	52.55	3.86
Self-management	48.61	51.94	3.33
Goal-directed behavior	48.18	51.35	3.17
Self-awareness	47.89	51.55	3.66
Optimistic thinking	47.45	50.43	2.98
Decision making	47.09	50.38	3.29
Personal responsibility	46.73	50.13	3.40
Total	47.97	51.33	3.37

From Table 50, the mean scores of each of the eight domains for the reflective teaching approach group at pretest DESSA and post-test DESSA are ranked. Relationship skills had the highest mean of 52.55 *T* score at the DESSA post-test, followed by social awareness with a mean of 52.34 *T* score while personal responsibility tailed with a mean of 50.13 *T* score. In terms of mean score differences between the DESSA pre-test and the DESSA post-test, the domain of relationship skills had the greatest mean score difference of 3.86 followed by self-awareness and

personal responsibility at 3.66 and 3.40 *T* scores respectively. Optimistic thinking had the least mean difference of a 2.98 *T* score. Reflective teaching approach from these results, appear to make learners to have better relations with others compared to the rest of the domains.

Records for the reflective teaching approach group and control group were analysed. Table 51 shows the average values obtained by the researcher and a trained independent rater. The researcher and the independent rater scored from available documents on the reflective teaching approach for children's social emotional competences. A table of presence and absence of records on the reflective teaching approach was constructed and average values for the researcher and the independent rater calculated manually. A maximum score of 74.0 would indicate intense application of the reflective teaching approach for the required five main entries. Presence of a journal, a note book for peer review, literature review, and the use of learners' feedback had a score of 1.0 while the rest of the entries had a maximum score of 5.0.

Table 51

Analysis of Records kept by Reflective Teaching Approach Group and Control Groups on Children's Social Emotional Competences

Reflective teaching approach records	Reflective teaching approach group's score	Control group's score
Action research records		
Textbook-related research records for children's social emotional competences	4.0	2.0
Internet-related research records on children's social emotional competences	3.0	0.0
Research related to action research teaching in relation to children's social emotional competences from:		

Textbook	3.0	0.0
Internet	1.0	0.0
Other sources (newspapers, magazines journals)	2.0	1.0
Reflective journals' records		
A journal	1.0	0.0
Entries on children's social emotional competences	4.0	0.0
Particular entries of children with social emotional challenges in the delivery of the competence-based curriculum	2.0	0.0
Peer review records		
Peer review notebook	1.0	0.0
Notes with colleague critique on the teaching of children's social emotional competences	3.0	0.0
Notes related to searches on children's social emotional competences learning/teaching in implementation and delivery of the competence-based curriculum	2.0	0.0
Theoretical literature records		
Theoretical literature notebook on children's social emotional competences	1.0	0.0
Relevant literature on children's social emotional competences	3.0	0.0
Literature on mitigating children's social emotional challenges	3.0	0.0
Use of learners' feedback records		
Use of learners' feedback notebook	1.0	0.0
Notes on learner's feedback that illuminate teaching and learning on children's social emotional competences	3.0	0.0

Positive/negative comments on challenges of teaching children's social emotional competences using children's feedback	3.0	0.0
Score	41.0	3.0
Maximum score	74.0	74.0

As displayed in Table 51, the reflective teaching approach group was rated higher than the control group on the outlined important records for this study. Teachers in the treatment group documented both conceptual and empirical research aspects of teachers' research in their day-to-day teaching and learning of social emotional competences. Documents from one of the teachers identified her problem: *Poor self-awareness: Children with poor self-awareness have problems understanding the effect of their behavior and fail to connect with other children.* She noted a list of websites that dealt with the development of children's social emotional competences for example, www.learningworkforkids.com, www.cssp.org and www.counselingthegifted.com.

She also noted ways of assisting children develop self-awareness as well as self-concept for better learning outcomes: *Demonstrating how children should behave in particular situations, modeling behavior for children's difficult situations, questioning children why they did/or say something important, and letting children know that what they feel is important*. She noted activities that promoted self-awareness for example; *Get to know yourself, your family members, desk-mates, and classmates*. Further, she had written down activities that foster

positive self-talk through charts, pictures, play, games, and songs as well those that fostered individual talents. There were also notes on the way she collected data: *using critical incidents activities in the classroom and in the field, children interviews and assessments.* In the control group, the teachers had very little documentation on action research; only one teacher had some notes on social emotional competences gleaned from a textbook.

Teachers had entries on the use of reflective journals. They wrote significant incidences that happened while they taught children's social emotional competences. Reading through the journals, there were entries on children with social emotional challenges and what they were doing to assist them. In a teacher's reflective journal, among other entries, were names of children she considered in need of assistance on various social emotional competence domains.

There were also notes on what she had observed in particular children in need of urgent attention and what she was doing for them: She noted for one of them: *Tearful, low interest, sad, poor concentration, and anxiety.* On her journal, she wrote what she was doing about: *Called the parents to discuss the child, asked the parents to be observant.* In another part of the journal and in relation to another child, she wrote: *Guardian to take the child to a specialist: I found the mother had died, the father is a drunkard, and the child is living with grandfather,* and *more inclusive activities needed.*

Teachers had notebooks for peer review with templates for recording peer review especially on lessons for children's social emotional competences. The notebook had

lesson pre-observation, observation and post-observation reviews with their colleagues' templates. In the pre-observation template, a teacher had written her lessons requirements that had been discussed with her colleague. They included lesson resource materials like toys, pictures, charts, and textbooks. In the observation template, were statements remarked by her colleague.

In-class observation template, prepared for a lesson she had taught relationships skills, was written: *Did I communicate what are relationship skills? Did I use enough teaching resources and activities*? Her colleague had made remarks on the same template: *Needs improvement*. In the post-observation template were notes on post-observation discussions between her and her colleague on what had gone well, what had not gone according to plan and action plans. For example, *Use more activities to teach relationship skills, and children role-play how to solve a conflict among them*. Teachers in the control group had no documents for peer review in reflective teaching approach.

The teachers also had notebooks on theoretical literature with entries that indicated that they used scholarly literature in their day-to-day. These could have informed their practice especially; in areas they felt they had difficulties. One of the teachers had problems teaching children decision making skills. In her notebook, there was a lot of literature on facilitating children to become good decision makers. For example, activities for practicing making choices: in games, toys for particular activities, relevant songs for particular learning experiences, steps to arrive at a satisfactory decision, questions that promote good decisions, looking at events from different sides, and considering the consequences of a decision made. Teachers in the control group had no documents related to use of theoretical literature.

The teachers also had a notebook with entries for use of learners' feedback. They documented that they used classroom assessments, one-on-one interviews and informal children focus groups to have ideas on how and what the children were learning social emotional competences. They were able to gather information on children from the answers provided and the questions that were asked. One of the teachers wrote: *Children are expressing themselves, staying on task, planning better, following rules, exploring more, feeling good, and waiting for their turns*. The control group did not have documents on use of learners' feedback. Reflective teaching approach group had a mean of 41.0 (55.405%) away from maximum score of 74.0. The control group had very little documentation and was scored at 3 (4.054 %) away from a maximum score of 74.0. There was evidence of the use of theoretical literature in reflecting teaching approach in the treatment group compared to minimal or non-structured use of reflective teaching approach in the control group.

Preschool teacher interviews were conducted in both the treatment group and the control group. Teachers in the treatment group had a positive attitude towards the use of the features of reflective teaching approach. A teacher said: *I teach social emotional competences in given lessons and whenever an opportunity arises in the classroom, school field, eating times and resting time. I am finding that the children are improving with continuous follow-ups*.

The teachers stated that when social emotional challenges arose they sought answers by researching in textbooks, internet and other sources, for example, magazines, and journals. They also said that they consulted with their colleagues, regularly made requests for colleagues to observe their lessons, discussed about children's social emotional problems and related issues, and that these facilitated them in sharpening their reflective skills. A teacher said: *I record important findings, challenges and*

successes in my journal and reflect on them. The journal assists me to keep track of challenging events happening in my class. It has become a teaching resource in the implementation of the competence-based curriculum.

Teachers in the treatment group also stated that feedback they received from the children had become a new lens for looking at the children and their practice as teachers. They said that they constantly examined the children through observation, oral communication and listening to them. A teacher said: *Sometimes, I am perplexed by what I gather from children's talk in relation to challenges and problems on social emotional competences but by searching the internet, I get answers- especially for those that are vulnerable due to varied circumstances they have found themselves*. The teachers also found out they were not alone in facing challenging children's social emotional competences. Stories in literature from other teachers in similar circumstances released them from guilty and feelings of incompetence as pointed out by Brookfield (2002).

Furthermore, they stated that the children improved not only social and emotionally but also in academics as well as in other spheres of their school lives. A teacher in the reflective teaching approach group stated the following in the final follow-ups: *Before training, teaching was difficult with all these children social emotional challenges, but nowadays, I feel empowered and in touch with my class. Children step in with emotional difficulty and I step in with a solution. In this approach, competence-based curriculum is a lot easier.*

These findings echo Dewey (1910) that reflective actions are in 'principle the active, persistent and careful consideration of any belief or supposed form of knowledge in

the light of the ground that supports it and the further conclusion to which it tends' (p.6) as well as Brookfield (2002) who contends that reflective teaching leads to the democratisation of teaching where teachers are liberated enough to have their voices heard through action research, reflective journals, narratives from their experiences, diaries and other written texts, and examination of their practice- a form of teaching he termed as critical reflective teaching.

According to Galea (2012), teaching reflectively is a practice that enables teachers to better understand what they teach, how they teach, and why they teach. From the findings of this research study, the features of reflective teaching approach enhanced children's social emotional competences and furthermore, children improved in most facets of learning. Reflective teaching approach could also enable preschool teachers grow and develop a form of knowing Schön (1987), referred to as reflection-on-action and reflection-in-action which improves teachers' self-efficacy and autonomy (Braun & Crumpler, 2004).

Teachers in the control group generally lacked the awareness witnessed in the treatment group. They appeared to be driven by their calling to teach but lacked the tools and the cognition required to drive children's social emotional competences learning that is enabled by reflective teaching approach/features of reflective teaching approach. Although the teachers in this group stated that they taught social emotional competences according to the provisions of CBC, the syllabus, and the recommended textbooks; they neither used explicit lessons to teach social emotional competences nor made follow-ups in the learning of children's social emotional competences. Moreover, they did not examine the children on these competences with norm referenced tools, such as DESSA and this could explain the lower mean

scores obtained by preschool children in this group.

This research study finds what Kipkorir and Njenga (1997) points out that the philosophy of early childhood in Kenya is rooted in the community and the fate of children in difficult circumstances is not addressed in preschool teacher education in Kenya. The study supports Thumbi, Gatumu and Muriithi (2016), Gatumu, Muriithi and Thumbi (2014) and Thumbi (2012) that reflective teaching approach and peer mentoring in reflective teaching approach improve preschool children academic performance and, what has been studied by scholars and researchers in reflective teaching approach, available in the literature (Akbari, 2007; Osterman & KottKamp 2004; Brookfield, 2002; Schön, 1987; Dewey 1933).

As an addendum, this is a way of teaching that demarcates reflective teaching by the use of its known features namely, action research, reflective journals, peer review, theoretical literature, and the learners' feedback and could be effective in teaching preschool children's social emotional competences. These features can be used in teaching either separately or in combination, especially where children come from families that have been disrupted socially and are at risk of school failure or compromised later in life.

Further, a reflective teaching approach could be effective in teaching *need of instructions* preschool children- learners scoring below average in social emotional assessments and requiring urgent social emotional help; *typical* preschool children- learners scoring normally in social emotional assessments and requiring social emotional assistance as well as *strengths* preschool children- learners scoring above average in social emotional assessments but still require assistance in social emotional competences.

Furthermore, assessments of preschool children social emotional competences should be administered using validated, reliable and norm referenced scales, for example, DESSA. In the teaching of children's social emotional competences, explicit lessons should be scheduled and teachers find opportunities for them to strengthen their use during the day. Against the background of the findings of this research study; reflective teaching approach/ features of reflective teaching approach on children's social emotional competences in the competence-based curriculum, could lead to the growth and development of teachers in their profession and in preschool children's social emotional cognitive schema in Molo Sub-County and similar localities.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises the findings of the research study, and presents conclusions and recommendations for the effectiveness of preschool teachers' training in Kenya in relation to the reflective teaching approach /features of reflective teaching approach on preschool children's social emotional competences in the implementation and delivery of CBC as well as suggestions for further research.

5.2 Summary

The purpose of this study was to find the effect of teachers' reflective teaching approach on preschool children's social emotional competences in Molo Sub-County, Kenya. The objective was to examine whether features of reflective teaching approach either separately or in combination affect preschool children's social emotional competences in CBC. The features were: action research, reflective journals, peer review, theoretical literature, and the use of learners' feedback to illuminate teachers' practice. Teachers focused on the following social emotional competence domains: self-awareness, social awareness, self-management, goal-directed behavior, relationship skills, personal responsibility, responsible decision making and optimistic thinking.

Six hypotheses were formulated in order to meet the research objectives and held that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use reflective teaching approach /features of reflective teaching approach and those who do not. The hypotheses were

to establish whether preschool children's mean scores in social emotional competences differed significantly in classes where teachers used reflective teaching approach/features of reflective teaching approach and the ones where they did not.

The literature review focused on the nature of reflective teaching approach, features of the reflective teaching approach, social emotional competences and benefits and challenges of teaching children's social emotional competences. The literature reviewed provided the pivot as well as the landscape of the research study. This was with a view of training teachers to provide explicit lessons to preschool children on social emotional competencies and find opportunities for them to strengthen their use in the course of the day. The study was piloted for three months and the results obtained at this stage, guided and refined how the main study was to be conducted.

In the main study, stratified simple random sampling allowed the representation of public and private preschools from the population. Children in Pre-Primary 2 were placed in the study sample and represented 10% of the population. Further, simple random sampling was used to assign preschools by half to treatment groups (those whose teachers' received training in reflective teaching approach/features of reflective teaching approach) and control groups.

The data was collected using a training module for preschool teachers, DESSA pre-test and post-test, preschool teachers' semi-structured interview schedule, and a documentary analysis form. The treatment groups received training in reflective teaching approach/features of reflective teaching approach on children's social emotional competences. Within the treatment groups, a group of teachers received training each on a feature of reflective teaching in the following order: Use of action

research, use of reflective journals, use of peer review, use of theoretical literature, and use of learners' feedback. The groups were referred by the type of training teachers received, for example, the action research group received training on the use of action research. Another group of teachers received training on all the features of the reflective teaching and was referred to as the reflective teaching approach group. Teachers were trained to teach children's social emotional competencies through explicit lessons and to find opportunities for children to strengthen their use throughout the day. Intervention groups were paired with control groups.

A DESSA pre-test and a post-test were administered to preschool children in both treatment and control groups. The pre-test was administered before intervention. Data collected from the DESSA pre-test and a post-test was analysed using a computer programme SPSS statistics 25 for Windows (IBM Corporation, 2017). ANCOVA was used to determine statistical significance from the social emotional composite obtained from DESSA pre-test and post-test scores which were converted to *T*-scores to enable statistical calculations. DESSA pretest was treated as a covariate.

Preschool teachers' semi-structured interview schedule results and documentary analysis were used to gather more information on the use/absence of reflective teaching approach and features of reflective teaching approach in teaching children's social and emotional competences. The data obtained from these research instruments were analysed by hand and was used to give meaning to the mean score differences obtained from DESSA pre-test and post-test scores mean score differences. ANCOVA 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 first objective was to determine whether teachers' action research affects preschool children's social emotional competences with the hypothesis that there was no significant difference in preschool children's mean scores in social emotional competences between teachers who use action research and those who do not. The results of the analysis indicate that there was a significant effect of action research on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without action research, $F(1, 68) = 9.166$, $p < .05$, *partial* $\eta 2 = .119$. The effect size $\eta 2 = .119$ (partial Eta squared) indicated that 11.9 % of the variance of the post-test DESSA scores was associated with the use of action research on children's social emotional competences which is considered a medium effect. The domain of social awareness had the highest mean *T* score at the DESSA post-test of 52.57 while personal responsibility tailed with a mean of 48.81 *T* score. These findings indicate that action research in a reflective teaching approach could be important in teaching preschool children's social emotional competences in Molo Sub-County. This could happen via the growth and development of preschool teachers' profession and children's social emotional cognitive schema.

The second objective was to determine whether teachers' reflective journals affect preschool children's social emotional competences with the hypothesis that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use reflective journals and those who do not. The results of the analysis indicate that the use of reflective journals had a significant effect on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without the use of reflective journals, $F(1, 67) = 9.630$, $p < .05$, *partial* $\eta 2 = .126$. The variance in the post-test

DESSA scores associated with the use of reflective journals on children's social emotional competences was 12.6%. The calculated effect size η2= .126 (partial Eta squared) was considered a medium effect. The domain of relationship skills had the highest mean *T* score at the DESSA post-test of 52.07 while personal responsibly tailed with a mean of 48.62 *T* score. These findings indicate that reflective journals in a reflective teaching approach could be of value in teaching preschool children's social emotional competences in the implementation of competence-based curriculum in Molo Sub-County. This could happen through the growth and development of preschool teachers' profession and preschool children's social emotional cognitive schema.

The third objective was to determine whether teachers' use of peer review affects preschool children's social emotional competences with the hypothesis that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use peer review and those who do not. The results of the analysis indicate that there was a significant effect of peer review on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without the use of peer review, $F(1, 66) = 6.750$, $p < .05$, *partial* $\eta 2 = .093$. From the calculated effect size η2= .093 (partial Eta squared), 9.3% of the variance of the post-test DESSA scores was associated with the use of peer review on children's social emotional competences which is considered a medium effect. The domain of social awareness had the highest mean *T* score at DESSA post-test of 52.11 *T* score while personal responsibility tailed with a mean of 48.97 *T* score. These findings indicate that peer review in a reflective teaching approach could be significant in teaching preschool children's social emotional competences in the implementation of competence-based curriculum. This

could arise through the growth and development of teachers' profession and preschool children's social emotional cognitive schemata.

The fourth objective was to determine whether teachers' use of theoretical literature affects preschool children's social emotional competences with the hypothesis that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use theoretical literature and those who do not. The results of the analysis indicate that the use of theoretical literature had a significant effect on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without the use of theoretical literature, $F(1, 62)= 8.510$, $p < .05$, *partial* $\eta 2 = .121$. The effect size $\eta 2= .121$ (partial Eta squared) indicated that the use of theoretical literature on children's social emotional competences contributed to 12.1% of the variance in the post-test DESSA scores which is considered a medium effect. The domain of social awareness had the highest mean at the DESSA post-test of 51.19 *T* score while personal responsibility tailed with a mean of 48.65 *T* score. These findings indicate that theoretical literature on reflective teaching approach could be effective in teaching preschool children's social emotional competences in the competence-based curriculum implementation. This could occur via the growth and development of teachers' profession and learners' social emotional cognitive schema.

The fifth objective was to establish whether teachers' use of learners' feedback affects preschool children's social emotional competences with the hypothesis that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use learners' feedback and those who do not. The results of the analysis indicate that there was a significant effect of the use of learners' feedback to illuminate teacher' practice on preschool children's

social emotional competences after controlling the effect of teaching social emotional competences without use of the learners' feedback, F(1, 70)= 8.889, $p < .05$, *partial* η2= .113. The effect size η2= .113 (partial Eta squared) indicated that 11.3 % of the variance of the post-test DESSA scores was associated with the use of learners' feedback to illuminate teachers' practice on children's social emotional competences which is considered a medium effect. The domain of social awareness had the highest mean at DESSA post-test of 52.32 *T* score while personal responsibly tailed with a mean of 48.81 *T* score. These findings indicate that the use of learners' feedback to illuminate teachers' practice in a reflective teaching approach could be effective in teaching preschool children's social emotional competences in competence-based curriculum implementation and delivery. This could happen through the growth and development of teachers' profession and preschool children's social emotional cognitive schema in Molo Sub-County.

The sixth objective was to examine whether teachers' reflective teaching approach affects preschool children's social emotional competences with the hypothesis that there is no significant difference in preschool children's mean scores in social emotional competences between teachers who use the reflective teaching approach and those who do not. The results of the analysis indicate that there was a significant effect of reflective teaching approach on preschool children's social emotional competences after controlling the effect of teaching social emotional competences without reflective teaching approach, F(1, 207)= 31.427, $p < .05$, *partial* η2 = .132. The effect size η2= .132 (partial Eta squared) indicated that the reflective teaching approach on children's social emotional competences contributed to 13.2 % of the variance in the post-test DESSA scores which is considered a medium effect. The domain of relationship skills had the highest mean at the DESSA post-test of 52.55 *T*

score while personal responsibly tailed with a mean of 50.13 *T* score. These findings indicate that reflective teaching approach could be effective in teaching preschool children's social emotional competences in the competence-based curriculum implementation in Molo Sub-County and similar localities through the growth and development of teachers in their profession and preschool children's social emotional cognitive schema.

5.3 Conclusions of the study

This research study makes the following conclusions on features of reflective teaching approach and reflective teaching approach:

5.3.1 Features of Reflective Teaching Approach and Preschool Children's Social Emotional Competences

Research findings from this study indicate that a feature of the reflective teaching approach is superior to ordinary approaches to teaching preschool children's social emotional competences in CBC. A feature of reflective teaching, for example, action research translates to a statistically significant difference in children's mean score in social emotional competences in a group of children where it is used compared to a group where it is not. This occurs when children's social emotional competences are taught by critically reflective teachers through explicit lessons and occasions found for children to strengthen their use during the day.

The children appear to progress, understand and hold these competences better than those in the control group. This could arise through better construction of the cognitive schema in which these competences are embedded. Furthermore, preschool teachers appear to grow and develop professionally by being accurately aware of their practice and continuous learning. Preschool teachers are encouraged to employ

the various features of reflective teaching in their day-to-day teaching and for their professional development. However, according to this study, when the features of the reflective teaching approach are combined the findings indicate superior results and for this reason, teachers are encouraged to embrace all the features of reflective teaching for their growth as teachers and superior social emotional competences in a preschool child in the competence-based curriculum.

5.3.2 Reflective Teaching approach and Preschool Children's Social Emotional Competences

The reflective teaching approach boosts significantly children's mean scores relative to ordinary approaches to the teaching of children's social emotional competences in CBC. The superior children's learning of these competences is based on the facilitation the teacher brings out in the growth and development of preschool children's social emotional cognitive schema as an action researcher, the user of reflective journals, a peer reviewer, a theoretical literature reviewer, and user of learners' feedback to illuminate their practice. This is occur when preschool children's social emotional competences are taught through explicit lessons and finding opportunities for children to strengthen their use all through the day. Children appear to develop, comprehend and retain these competences better in classes with reflective teachers.

These could also happen when teachers aspire to be reflective professionals and could eventuate in the production of a socially and emotionally competent citizenry. Teachers are encouraged to evaluate, modify and try again in a democratic atmosphere their personal knowledge, their craft knowledge and their propositional knowledge to imbue social emotional knowledge in children. Further, teachers

should develop and practice self-directed examinations of their practice instigated by them and challenge the traditional methods that preschools have always carried out teaching and learning of social emotional competences. They are also encouraged to do a great deal of introspection, outside prompting and probing to enable learners to master themselves socially and emotionally.

From children's scores obtained in the intervention groups, it appears that this approach to teaching is more superior in cognitive schema construction in children than a single feature of the reflective teaching approach and ordinary approaches to teaching (absence of reflective teaching approach). Conversely, this approach to teaching also appears superior in preschool teachers' professional growth and development than when they (preschool teachers) employ a single feature of reflective teaching approach or use ordinary approaches to teaching (absence of reflective teaching approach) for preschool children's social emotional competences in the competence-based curriculum in Kenya.

5.4 Research Study Recommendations

This research study makes the following recommendations:

i) Preschool teachers in Molo Sub-County, Kenya should be trained through in-service courses in reflective teaching approach, reflective teaching approach workshops, and reflective teaching approach seminars to effectively scaffold preschool children's social emotional competences in the competence-based curriculum.

ii) Preschool teachers' reflective teaching approach should be used to deliver explicit lessons for preschool children's social emotional competences and opportunities found for children to strengthen their use during the day.

iii) Training in the reflective teaching approach should be of reasonable duration to enable the comprehension of reflective teaching approach for teaching children's social emotional competences.

iv) The Central Government, Ministry of Education in the State Department Basic Education and Early Learning, Kenya Universities with early childhood education and development programmes, Middle-level Preschool Teachers Training Colleges and the Ministry of Education of Nakuru County Government, should place the training of preschool teachers in the reflective teaching approach model for preschool children's social emotional competences.

v) Resources materials on the reflective teaching approach/features of reflective teaching approach and children's social emotional competences should be availed in preschool libraries/offices, resource centers/public libraries in Molo Sub-County. This should include research reports, reference books, journals, and relevant websites for preschool teachers and other stakeholders in preschool education to have a local resource.

5.5 Suggestions for Further Research

i) A thorough research study should be done in other Sub-Counties/Counties using a larger sample to generalise findings to the whole of the Republic of Kenya.

ii) Comparative study on preschool teaching and learning to be done to find out which areas preschool teachers' puts more emphasis on preschool children's teaching/learning in CBC.

iii) Research to be conducted on the use of reflective teaching approach in other areas of preschool children's learning for example, languages, numeracy, life skills, social, environmental awareness, religion and ethics, and national values in CBC.

iv) Research to be conducted on effect of the reflective teaching approach on social emotional competences where preschool children are vulnerable/at risk of school failure.

v) Research to be conducted on effect of a combination of two, three or four of the features of reflective teaching approach on preschool children's social emotional competences.

vi) Research to be conducted on effect of a combination of two, three or four of the features of reflective teaching approach on preschool children's social emotional competences who are vulnerable/ at risk of school failure.

vii) Further research should be conducted to understand the variation of social emotional competences domains when intersected with two or more features of the reflective teaching approach.

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APPENDIX I

LETTER OF INTRODUCTION

MR. KINGARU THUMBI,

P.O BOX 8248-00300,

NAIROBI.

PRESCHOOL TEACHER:

Dear Sir /Madam,

Re: A Study on Preschool Children's Social Emotional Competences

I am a student at the University of Nairobi; where I am in the process of completing a Ph.D course in Early Childhood Education. As part of my work, am required to carry out a study in preschools in this region on the above mentioned study area. I am seeking your participation. The findings of this study will be used to complete my course requirements and not for any other purpose and therefore feel free to take part in the study.

Yours faithfully,

Kingaru Thumbi

APPENDIX II

TRAINING MODULE FOR PRESCHOOL TEACHERS

TRAINER: KINGARU THUMBI (Researcher)

Rationale

Reflective teaching approach is a means by which teachers can develop a greater level of self-awareness about the nature and impact of their performance. This awareness can create opportunities for professional growth and development. In this study the focus is on preschool children's social emotional competences in the competence-based curriculum.

Session 1: By the ends of the session, the preschool teacher should be able to:

i) a) Define children's social emotional competences in relation to preschool education in the competence based curriculum.
   b) State the significance of preschool children's social emotional competences in the competence-based curriculum.

ii) State the history of reflective teaching approach based on Dewey (1910/1933), Schön (1983, 1987) and Kolb (1984) in relation to teaching and learning in the competence-based curriculum.

Session II: By the end of the session, the preschool teacher should be able: (as described in research methodology) to:

1. Relate the following features of reflective teaching approach on preschool children's learning.

   a) Action research and children's social emotional in competences in the competence-based curriculum.
   b) Reflective journals and children's social emotional competences in the competence-based curriculum.

2. Describe the following features of reflective teaching approach on preschool children's learning based on Brookfield lenses (Brookfield, 2002).
   a) Peer review and children's social emotional competences competence-based curriculum
   b) Theoretical literature and children's social emotional competences in the competence-based curriculum
   c) Use of learners' feedback and children's social emotional competences in the competence-based curriculum

3. Describe the importance of each feature of reflective teaching approach in infusing social emotional competences to preschool children in the competence-based curriculum.

Session III: By the end of the session, the preschool teacher should be able (as described in research methodology) to:

a) Describe the importance of reflective teaching approach on preschool children's social emotional competences in the competence-based curriculum.

APPENDIX III

DESSA-DEVEREUX STUDENT STRENGTHS ASSESSMENT FORM

Child's Name: _____ Gender _____ Date of Birth: _____ Age: _____

School: _____ Class : _____

Teacher: _____ Date of Rating: _____

For the last four weeks how often does the child,

	Very Rarely	Rarely	Occasionally	Frequently	Very frequently
1.Remembers important information					
2. Carry's herself/himself with confidence					
3.Keep trying when unsuccessful					
4.Handles his/her belonging with care					
5.Say good things about herself/himself					
6.Serve an important role at school					
7. Speak about positive things					
8. Cope with insults and mean comments					
9.Takes steps to achieve goals					
10.Look forward to classes activities					
11.Gets along with different types of people					

12. Try to do his/her best					
13. Seek additional information					
14 Takes active role in learning					
15. Do things independently					
16. Say good things about classmates					
17. Acts respectively in a game					
18.Acts to take additional responsibilities					
19.Respects another person opinion					
20.Encourages positive behavior in others					
21.Prepare for school activities					
22.Contribute to group effort					
23.Do routine work without being reminded					
24.Acts as a leader in peer group					
25.Resolves disagreements					
26.Shows creativity in completing task					
27.Shares with others					

28.Gets things done in a timely fashion

29.Seeks out challenging task

30.Say good things about the future

31.Cooperate with peers

32.Show care when doing a project

33.Work hard on projects

34.Forgive somebody upsets her

35.Follow rules

36. Expressing expectation for himself

37. Follow example of a positive role model

38. Compliment somebody

39. Accepts responsibility

40. Do something nice for somebody

41. Make accurate statements about life

42.Show good judgment

43.Pay attention					
44.Wait for his/her turn					
45.Show appreciation of others					
46.Focus on a task despite problems					
47.Greet a person in a polite way					
48.Act comfortable in a polite way					
49.Teach another person to do something					
50.Attract positive attention from peers					
51.Perform the steps of a task in order					
52.Seek advice					
53.Think before he/she acts					
54.Pass up something to get something better in future					
55.Express concern for another person					
56.Accept another choice when first choice fails					
57.Ask questions to clarify what is not understood					
58.Show awareness of his/her strength					

59.Ask somebody for feedback

60.Stay calm when faced with a challenge

61.Attract positive attention

62.Describe how he/she was feeling

63.Gives an opinion when asked

64.Makes a suggestion in a polite way

65.Learns from experience

66.Follows advice of trusted friends

67.Adjusts well to changes in plans

68.Shows ability to decide between right and wrong

69.Uses available resources to solve problems

70.Offer to help somebody

71.Respond to another person feelings

72.Adjust well when going from one setting to another

APPENDIX IV

SEMI-STRUCTURED INTERVIEW SCHEDULE FOR PRESCHOOL TEACHERS

RESEARCHER: KINGARU THUMBI

You are invited to participate in a study based on how particular ways of teaching have an effect on preschool children social emotional competences in the competence based curriculum. You are eligible participant as a preschool teacher. The interview will take about 45 minutes of your time: (Prompts in *italics*).

1. Tell me about yourself: - how long you have taught: the number of children in your class and your experience in teaching social emotional competences?

2. How often do you teach children's social emotional competences (*If not daily, Why? If daily, Why*?)

3. Do children show improvement in social emotional competences based on their entrance behaviour after some time? (*How do you know? if not, how do you know?*)

4. Which other techniques do you employ to speed up the gains in children's social emotional competences? (*Do you reflect on these techniques? If not. Why?*)

5. What challenges do you face when teaching social emotional competences? (*How do you try to overcome these challenges?)*

6. Does action research help you to be a better teacher or understand your class better? (*In what ways?*)

7. Do you use a journal to guide your practice in teaching children social emotional competences (*If you do, Why? If not, why?*)

8. Do you look at your teaching on children social emotional competences based on feedback you receive from them (*How do you do this*?).

9. Do you utilize knowledge from your colleagues' to illuminates your teaching. Do you seek advice from your collogues in the case of children's social emotional learning?

10. Do you make searches in books and other resources to guide children's in social-emotional learning? For example, text books, the internet, newspapers or research findings? (*Why do you do these for? Or, if not, why?*)

11. When children show gains in social emotional competences, do they reflect it in their academic performance? (*Which other area?*)

12. Do you believe that reflecting on children's social emotional competences make you a better teacher (*If so, why? If not, why)*

APPENDIX V

DOCUMENTARY ANALYSIS FORM FOR PRRESCHOOL TEACHERS

Type of documents (as indicated in research methodology)……

Records on use of action research on children's social emotional teaching and learning in the competence-based curriculum

Text book related research on social emotional competence
Internet related records on social emotional competences
A teachers' personal research related to action research teaching in relation to social emotional competences from text books, Internet, newspapers, magazines and journals

Records on use of reflective journals on children's social emotional teaching and learning in the competence-based curriculum

A journal
Entries on social emotional Competences in children
Particular entries of children with social emotional challenges

Records on use of peer review on children's social emotional teaching and learning in the competence-based curriculum

Presence of a children's social emotional notebook
Notes with colleague critic on the teaching of social emotional competences
Notes related to searches on social emotional teaching

Records on use of theoretical literature on children's social emotional teaching and learning in the competence-based curriculum

Theoretical literature notebook on social emotional competences in children
Relevant literature on social emotional competences for preschool children
Literature on how to mitigate social emotional challenges for preschool children

Records on use of learners' feedback on children's social emotional teaching and learning in the competence-based curriculum

Notebook for use of learners' feedback to illuminate practice
Notes on learner's feedback that illuminate teaching and learning on social emotional competences
Positive/negative comments on challenges of teaching social emotional competences using learners' feedback

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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NACOSTI, Upper liabete
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NOT ROBI-KENYA

Ref No **NACOSTI/P/19/86968/29062**
Kingaru Thumbi University of Nairobi
P.O Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"effect of teachers reflective teaching on preschool children social emotional competence in Molo Sub-County Kenya."* I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **10" April, 2020.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

THIS IS TO CERTIFY THAT:
MR. KINGARU THUMBI
of UNIVERSITY OF NAIROBI, 8248-300 NAIROBI,has been permitted to conduct research in *Nakuru County*

on the topic: *EFFECT OF TEACHERS REFLECTIVE TEACHING ON PRESCHOOL CHILDREN SOCIAL EMOTIONAL COMPETENCE IN MOLO SUB-COUNTY KENYA.*

for the period ending:
10th April,2020

Permit No : NACOSTI/P/19/86968/29062
Date Of Issue : 11th April,2019
Fee Recieved :Ksh 2000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

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