ASSESSMENT PRACTICES USED BY TEACHERS IN EARLY CHILDHOOD EDUCATION CENTRES IN LUSAKA, ZAMBIA

BY

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AUTHOR'S DECLARATION

I, **Stella Lungu,** do hereby declare that this thesis represents my own work, except where otherwise acknowledged, and that it has never been previously submitted for a degree at the University of Zambia or any other university.

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CERTIFICATE OF APPROVAL

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ABSTRACT

Assessment in Early Childhood Education (ECE) plays a major role in child development, teaching and learning processes of young children. This study therefore sought to investigate "Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia." The objectives of the study were to: Establish assessment practices used by teachers' in ECE Centres; examine to what extent teachers were knowledgeable about principles that guide assessment in ECE and to establish challenges if any, experienced by teachers in early childhood assessment.

The study employed a pragmatic world view which relies on mixed methods approaches. Thus, a mixed methods design was employed encompassing both qualitative and quantitative approaches. A concurrent triangulation design was used. Both probability and nonprobability sampling techniques were used to sample one hundred and two (102) teachers and ten (10) head teachers whilst a probability sampling technique was used to sample one hundred and twenty-five (125) parents drawn from Lusaka District. For data collection, the study used the following research instruments: Questionnaires were used to gather data from teachers and parents, Focus Group Discussion Guides (FGDs) were used to interview the teachers whilst Interview guides were used to interview head teachers. A documentary analysis guide and an observational checklist were used by the researcher to obtain additional data on assessment practices by teachers (from a documentary and observational point of view). Thereafter, quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS) version 21, whilst thematic analysis was used to analyse qualitative data using a framework approach of qualitative data analysis.

The study revealed that both assessment of learning (summative assessment) and assessment for learning (formative assessment) were common assessment practices employed by teachers in ECE Centres. However, most teachers did not adhere to the actual norms of formative assessment, and they exhibited little understanding of what was prescribed in the revised ECE curriculum on assessment. The assessment strategies frequently used by teachers in ECE Centres were homework, standardised tests, interview guides, paper and pencil-tests in which learners read questions and responded in writing. The use of standardised assessment tools was low although a minimal number of teachers used the Child Assessment Tool for Zambia (CDATZ) for assessment in some ECE Centres. Teachers were knowledgeable about the principles that guide assessment in early childhood assessment except, they were biased in the way they applied the principles when conducting assessment, hence compromising assessment results. Meanwhile, the challenges experienced by teachers in ECE Centres, among others were limited standardised assessment tools in ECE Centres: lack of sufficient time to conduct certain assessments due to inflexible timetables and limited supply of essential materials like play materials; and pressure from parents to conduct assessments that emphasised on grading of children in comparison with their peers. Recommendations on possible solutions were made based on the findings.

***Keywords*:** authentic assessment, early childhood education, early childhood curriculum, formative assessment, summative assessment.

DEDICATION

To the husband of my youth Phinias Lupaka. I dedicate this thesis to you. Thank you for believing in my academic potential and for supporting my aspirations. Your enormous support, love and care are much appreciated. You are a blessing I count not just once or twice but countless times because men like you are rare.

Kalebalika! My guy.

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LIST OF ABBREVIATIONS AND ACRONYMS

CDATZ – Child Assessment Tool for Zambia

CDC – Curriculum Development Centre

DAP – Developmentally Appropriate Practices

ECCD - Early Childhood Care and Development

ECCE - Early Childhood Care and Education

ECE – Early Childhood Education

MESVTEE – Ministry of Education, Science, Vocational Training and Early Education

MoGE – Ministry of General Education

NAEYC – National Association for the Education of Young Children

NGO - Non-Governmental Organisation

OECD – Organisation for Economic Cooperation and Development

SDG – Sustainable Development Goals

UN – United Nations

UNESCO – United Nations Educational, Scientific and Cultural Organisation

UNICEF – United Nations International Cultural Education Fund

UNZA – University of Zambia

ZPA – Zambia Pre-School Association

ZPD – Zone of Proximal Development

CHAPTER ONE: INTRODUCTION

1.1 Overview

This chapter provides the rationale of the study, background to the study, the statement of the problem under investigation, the purpose of the study, specific objectives, research questions, theoretical and conceptual frameworks, the significance of the study, limitations of the study, operational definitions, and a summary of chapter one.

1.2 Rationale of the study

This study was inspired by the researcher's experience in teaching of early childhood pre-service student teachers, whose assessment practices during their teaching practice/experience, impacted the researcher's perception of assessment in Early Childhood Education (ECE). Furthermore, the researcher's involvement in various studies that focused on children's development and learning, prompted the researcher to further explore how assessment practices used by teachers in ECE Centres influence children's development and academic learning.

In addition, globally, many studies have been conducted on early childhood assessment (Bailey, 2017; DeLuca, 2018; Navarrete, 2015; Kotar, 2014; Nah, 2014). However, there was a knowledge gap in assessment practices used by teachers in ECE Centres in Zambia. Meanwhile, it is evident from previous studies that, assessment practices used by teachers in ECE Centres have the potential to influence children's development and academic learning (Basford, 2016; Lau, 2015; Kitano, 2011; Rethza, and Jamaluddin, 2010). The information gathered from the above scholarly data, prompted the researcher to conduct this study. Equally, the review of the ECE curriculum over the past ten years also contributed to the rationale of the current study. Particularly, the curriculum was revised because of the need to provide a national age-appropriate curriculum for children aged between three and six years and the need to provide quality education (Curriculum Development Centre, 2013; MESVTEE, 2013). Moreover,

Sustainable Development Goals (SDGs) are also concentrating on optimal development of children through the provision of quality education (UNESCO, 2016).

Therefore, it was anticipated that by conducting this study, the findings may provide insight on assessment practices used by teachers in ECE Centres in Lusaka, Zambia. It was hoped that the study may also show how assessment practices used by teachers, influence children's development and academic learning. Furthermore, it was anticipated that the study may exemplify what assessment knowledge, teachers possess for effective implementation of formative and summative assessment in ECE Centres. Additionally, it was hoped that the study, may shed light on any challenges experienced by teachers in early childhood assessment. It is against this background that the researcher got interested to conduct this current study.

1.3 Background of the study

This study focuses on "Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia." Thus, a deliberate effort has been made to give a brief background of Early Childhood Education (ECE) in Zambia before expounding on aspects of assessment practices in ECE. ECE in Zambia (formerly known as Northern Rhodesia), has been in existence since 1957 through the enactment of the Day and Nurseries Act, Chapter 313 of the Laws of Zambia (Government of Zambia, 2011). This was Zambia's first policy on the provision of Early Childhood Education, which facilitated the establishment, registration and regulation of day nurseries for children aged between zero and six years. Thereafter, there was an establishment of a Pre-school coordinating body called Zambia Pre-school Association (ZPA) through an Act of Parliament in 1972. ZPA was created as an umbrella organisation spearheading issues of Early Childhood Education by taking charge of pre-school matters in the country (ZPA, 1975), eventually broadening its mandate to include training of teachers for Early Childhood Education.

ZPA became instrumental in the running of Pre-school affairs in the country, consequently influencing recognition of ECE in the 1977 Education Reforms. The provision and funding of Early Childhood and Pre-school education became the responsibility of local councils, local communities, NGOs, private individuals and families (Ministry of Education, 1977). Subsequent education policy documents *Focus on Learning Policy of 1992* (Ministry of Education, 1992) and *Educating our Future of 1996* (Ministry of Education, 1996) have recognised the critical role that ECE plays as a foundation for all later learning. In the late 1990s, Pre-schools were under the management of the Ministry of Local Government and Housing. However, in 2004, the Government of the Republic of Zambia (GRZ) Gazette shifted the responsibility of providing ECE services for the children aged between three and six years to the Ministry of Education (MOE) whilst the aspect of child development for children aged between zero and three years remained the mandate of Ministry of Community Development Mother and Child Health (MCDMCH) (MESVTEE, 2015).

Subsequently, the Ministry of Education, Science, Vocational Training and Early Education (MESVTEE) was tasked to investigate the prospects of introducing ECE in public primary schools. Eventually, this led to the recruitment and deployment of trained ECE teachers to various ECE Centres annexed at public primary schools across the country (Ministry of Education, 2013). Thus, as of 2014, the first intake of pupils was enrolled in public ECE Centres under the Ministry of General Education (MoGE) accommodated at various public primary schools. However, although this was the first enrolment of ECE pupils in public schools, private-owned ECE Centres and those run by Non-Governmental Organisations (NGOs) and Faith-Based Organisations (FBOs) provided ECE services to the general public and have continued to do so up to now. Henceforth, it is hoped that the MoGE would continue to lead in spearheading issues of the curriculum, ECE textbooks, play materials, and standardised assessment tools, which are essential in determining the children's development and academic development learning in ECE. Thus, assessment in ECE remains of interest not just to the teachers but to the parents and all stakeholders.

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For instance, in the 21st century, assessment of very young children has experienced a period of rapid growth and expansion, signifying the integral role it plays in child development, teaching and the learning process of young children (Morrison, 2017 and Stiggens, 2017). "Teachers of young children are moving from more traditional strategies of assessing for knowledge and facts to assessing the students' ability to reason and solve problems" (Wortham, 2005:13). Although assessment can mean so many things in ECE, McAfee, Leong, and Bodrova (2004) describe it as the process of gathering information about children from several forms of evidence of which the information obtained, is then organised and interpreted accordingly.

In addition, Madden (2017:204) asserts that assessment of young children is "an ongoing process that includes identifying, collecting, describing, interpreting, and applying classroom-based evidence of early learning to make informed instructional decisions." This evidence may include records of children's conversations, their drawings and constructions, as well as photographs of them in action and anecdotal notes describing their behaviours (Wortham, 2008). Thus, teachers need various assessment strategies and tools to gather relevant information to make decisions on children's developmental milestones, their school performance, the prevalence of learning disabilities or behaviour problems to fully understand children's development and learning (Curriculum Development Centre, 2014a). Assessment in ECE is different from assessment involving adults because children's growth is rapid, uneven, episodic, and highly influenced by environmental factors (Shepard, Kagan and Wurtz, 1998). Children learn best through experience and the use of concrete objects rather than through abstract reasoning and the use of paper and pencil activities, as is the case for adults (Zhou and Brown, 2015; Bredekamp and Rosegrant, 1995; 1992).

Thus, individual children will present different developmental patterns. Hence, the choice of assessment strategies and tools should be carefully made to meet the children's individual development, learning capabilities and all other aspects (Wortham, 2005; Shepard et al., 1998). Failure to identify these variations and employ appropriate

assessment strategies and tools may defeat the purpose of assessment in ECE. Meanwhile, the purpose of assessment in ECE, among others, includes monitoring of child development and learning; guiding curriculum planning and decision making; identification of children's developmental delays such as special education needs and reporting and communicating progression to other stakeholders such as parents, Health personnel or any other caregivers (MESVTEE, 2013; Neaum, 2016; Wortham, 2012). Therefore, due to the nature of assessments in ECE, it is imperative to involve trained personnel or teachers when conducting assessments (Curriculum Development Centre, 2014 a). No wonder the national education policy on education, "Educating our Future" (Ministry of Education, 1996), recognises that in-service education is essential for all teachers because it familiarises them with new curriculum content and materials, to upgrade their existing instructional skills and to promote their resourcefulness in using local teaching materials.

Thus, the MoGE acknowledges the role of in-service training and Continuing Professional Development (CPD) in improving teachers' pedagogical knowledge and competencies and keeping the teachers well-informed about the latest developments in the education system (Ministry of Education, 2001). However, based on this premise, it could be argued that the teachers' initial training may not be adequate for them to be effective for life in their profession because of the continuous policy and curriculum changes over time (Ministry of Education, 1996). Consequently, lack of teacher participation in CPDs and in-service training may limit teachers' knowledge and competence to conduct an authentic assessment in ECE Centres. As a result, teachers are likely to face challenges when conducting assessments which may compromise assessment results.

Therefore, teachers should ensure that they are well informed and prepared to face a revised curriculum's challenges to instruction and assessment. Most importantly, now that the ECE curriculum was revised, teachers have the responsibility to comprehend, contextualise and implement the curriculum according to how the assessment methods have been prescribed. However, it was unknown whether teachers in ECE Centres in

Lusaka conducted assessment as prescribed in the revised ECE curriculum because little information was available on how teachers assessed children's development and academic learning in ECE Centres. Furthermore, it is essential to note that the old ECE curriculum embraced traditional teaching, learning and assessment of children. It focused on the acquisition of academic knowledge (skills-based approach). Teachers often directed and managed most learning activities in a structured, routine-oriented environment, hence perpetuating rote learning (Curriculum Development Centre, 2013). As a result, assessment focused more on what knowledge and skills the children acquired compared to other children than taking into consideration other areas of development such as the social, emotional, physical and linguistic capabilities of a child. In addition, the old ECE curriculum was rendered outdated for not providing for a smooth transition from ECE to grade one because the content was considered not to be directly linked to the grade one content (Curriculum Development Centre, 2013).

Thus, in 2013, the MESVTEE in Zambia revised the ECE curriculum and adopted a play-based curriculum. The revised curriculum regards play as the basis in its delivery. It allows children to have adequate play opportunities to explore their environment and have a hands-on approach to learning (MESVTEE, 2013). Bickart, Colker, Dodge and Heroman (2010: 9) assert that "purposeful, engaging play is an important vehicle for children's learning. When they play in meaningful ways, children learn about themselves, other people, and the world around them." The preceding is confirmed by Bowdon (2015:33), who notes that,

> *Play lets children engage in extended interactions that build oral language, imagination, critical thinking, and social skills. And recent evidence suggests that, at least for some skills, playful learning is more effective for producing student learning than direct instruction.*

Perhaps, to attain authentic assessment results in ECE Centres, the assessment strategies teachers implement should integrate play-based learning contexts both conceptually and practically. For instance, the revised ECE curriculum suggests that children should not be subjected to formal written examinations after finishing the work

for each age group. Instead, the aim of assessment at this level should be to establish children's developmental patterns and identify developmental delays requiring specific attention as early as possible. Thus, the revised ECE curriculum suggests that teachers are required to conduct assessments according to what has been stipulated in the curriculum, of which "observation" is said to be an integral part of the assessment in ECE. Therefore, this current study sought to ascertain whether teachers adhered to what is prescribed in the curriculum.

Besides, Sustainable Development Goals (SDGs) are also focusing on optimal development of young children as exemplified in SDG target 4.2., postulating that "By 2030, all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education" (UNESCO, 2016: 20). Access to quality education, among other things, implies that governments are obliged to facilitate the provision of the needed educational materials, among them, a good curriculum that can facilitate school readiness. Thus, determining whether the children in ECE Centres are ready for primary education is a process necessitating assessment that is authentic. According to Bagnato and Yeh-Ho (2006:29), authentic assessment is "the systematic recording of developmental observations over time about the naturally occurring behaviours and functional competencies of young children in daily routines by familiar and knowledgeable caregivers in the child's life." As a result, authentic assessments "must have some connection to the real world; that is, they must have a meaningful context" (Wortham 2005:13). Therefore, it was necessary to investigate assessment practices by teachers in ECE Centres because:

> *We need to rethink why we assess, what we assess, how we assess it, and what we do with the results. We must fundamentally reconsider the specific strategies and tactics that define assessment in our schools. We will need to address the assessment culture—the social and educational environment— within which we will carry out these reconsidered assessment strategies and tactics. In other words, we must assess well within the context of our societal and educational aspirations, values, and beliefs so as to promote a universal opportunity for learner success, regardless of the learner's social or economic background* (Stiggins, 2017: 6).

Whether or not assessment practices by teachers in Early Childhood Education (ECE) Centres in Lusaka are conducted within the context of what is prescribed in the revised curriculum was not known, hence the need to conduct this current study.

1.4 Statement of the problem

Over the past decade, the Ministry of General Education (MoGE) in Zambia through the Curriculum Development Centre (CDC) has made strides in developing, reviewing, and standardising the ECE curriculum for children aged three to six years. The revised curriculum aims at enhancing children's development and academic learning with the prospects of providing a smooth transition from ECE to primary education (Curriculum Development Centre, 2013; MESVTEE, 2013). As a result, several things have been prescribed in the revised curriculum. Among others are three critical aspects of assessment. Firstly, the revised curriculum has prescribed formative and summative assessment practices asserting that children should not be subjected to a formal written examination after finishing the work for each age group. Secondly, the curriculum suggests that assessment at the ECE level should be used to identify areas of the child's development that require extra or specific attention. Assessment tools should not be used for diagnostic purposes except for establishing the developmental pattern in children. Thirdly, the curriculum has prescribed that observation assessment should be considered an integral part of the ECE programme.

However, it was not clear how children should be assessed after the completion of each age group because it is not well-defined in the revised curriculum, how teachers should conduct assessment after completion of each group. In addition, little was known about the assessment tools, and strategies teachers should use to assess children in ECE Centres. Furthermore, little has been exemplified on how to conduct observations and how teachers should document what is observed. Meanwhile, observation as an assessment strategy requires some well-defined criteria to obtain authentic assessment results (Morrison, 2017; Neaum, 2016; Gronlund and James, 2013). As a result, one then wonders whether the assessment practices by teachers in ECE Centres had any

implications or produced authentic assessment results. Therefore, what was unknown is whether assessment in ECE Centres in Lusaka was being implemented according to what was prescribed in the revised curriculum. Considering the massive potential that assessment practices used by teachers have on the enhancement of children's development and academic learning in ECE Centres, there was a need to conduct this study.

1.5 Purpose of the study

The purpose of this study was to establish the assessment practices used by teachers in Early Childhood Education Centres (ECE) to understand how teachers implemented summative and formative assessments.

1.6 Research objectives

The objectives of this study were to:
  i. Establish assessment practices used by teachers in ECE Centres.
 ii. Examine to what extent teachers were knowledgeable about principles that guide assessment in ECE.
iii. Establish challenges, if any, experienced by teachers in early childhood assessment.

1.7 Research questions

The following questions guided the research.
  i. What are the assessment practices used by teachers in ECE Centres?
 ii. To what extent were teachers knowledgeable about principles that guide assessment in ECE?
iii. What challenges, if any, do teachers experience in early childhood assessment?

1.8 Theoretical framework

This study was backed by Vygotsky's Sociocultural Theory (Vygotsky, 1978). The theory suggests that social interaction is necessary for acquiring critical thinking and modelling

of social behaviour (Krogh and Slentz, 2001; Vygotsky, 2004;1978). Further, it suggests that the children's social interaction is more meaningful when they engage in play, use language meaningfully, and understand their environment's social and cultural context. As such, formative assessment can be conducted whilst children are playing to establish among other skills, their linguistic skills, social skills and cognitive abilities as they interpret the social-cultural context in their environment. The theory is relevant to this study because the current Zambian ECE curriculum emphasises learning through play. This implies that assessment should be conducted as children play, considering that the curriculum is designed so that developmental and educational activities can be implemented through play. Therefore, teachers are expected to know the purpose of assigning a particular task to a learner to determine the domain that requires an assessment as children play (MESVTEE, 2013).

Furthermore, key in this theoretical framework is the social-cultural aspect which suggests that social interaction plays a fundamental role in child development, especially cognition (Ministry of General Education, 2014 b and Wortham, 2005). Therefore, teachers are expected to use their knowledge of a child's socio-cultural background to employ appropriate assessment strategies and tools to generate meaningful assessment results. The argument is that children are likely to perform well in tasks if the teacher considers their socio-cultural context when teaching and conducting an assessment. The theory also suggests that children are likely to perform well under challenging tasks if the teacher provides some help when there is a need for adult intervention in children's activities. Therefore, the teacher is expected to evaluate the help rendered to assess how individual children perform after rendering help to them. Failure to consider this may compromise the assessment results. The help rendered is known as *scaffolding* (assistance rendered, guided learning or cooperative learning).

The theory suggests that individual development is inherently integrated with cultural, historical, and interpersonal factors; thus, adults must tailor their involvement according to the individual needs of the children in particular situations and at periods in

development (Zhou and Brown, 2015). Thus, assessment in ECE can be administered during *scaffolding* because the teacher can easily determine the child's developmental and academic needs. The teacher is expected to observe and document how a child performs a specific task with and without the teacher's help, hence conducting an assessment. For instance, if a learner at a certain age and stage can perform a given task independently and in valuable and meaningful ways, there is no need for intervention. Nonetheless, if a learner is not properly carrying out the given task due to challenging conditions or some impossible environmental obstacle or due to related cultural problems, intervention or assistance (scaffolding) might be necessary.

According to Wood and Middleton (1975), if a four-year-old child who is tasked to build a three-dimensional model using blocks and pegs finds it hard to complete the task alone, then a more knowledgeable person known as a *More Knowledgeable Other* can assist in the form of hints and words of encouragement to the child involved in the task. How a child responds to hints forms the assessment basis as the teacher notes how the child reciprocates and completes the task in this context. However, it was not clear if teachers in ECE Centres in Lusaka were implementing assessment as described above and if they were taking note of the children's performance in various assigned tasks.

In another context, Clegg and Legare (2017) examined how parents' scaffold "flexible imitation" during early childhood when children are engaged in an activity. Their study provided evidence that parents support the development of flexible imitation (children used imitation flexibly to acquire instrumental skills and conventions) during early childhood. This was achieved by adjusting their scaffolding according to the parents' goal, both to teach specific concepts and conduct an assessment on the task given. In other words, the scaffolding was done according to the expected end. Thus, it was noted that when learners receive appropriate guidance, they thrive in a task that would have been challenging to them. The implication is that as children do a particular task, the measure of help rendered enables the teacher to assess the children's capabilities. Therefore, scaffolding (assistance) is most effective when the support rendered meets

the specific learning needs of individual learners. Thus, assessment can be simultaneously administered to determine how individual learners are performing at every task stage.

Furthermore, according to the sociocultural theory, various assessment techniques can be employed when children are in the Zone of Proximal Development (ZPD). According to Vygotsky (1978:86), ZPD is "The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers." The ZPD refers to the range of tasks a child can do independently and potentially achieve with support from a More Knowledgeable Other (MKO). Bergen (2008) asserts that children learn best through social interaction with the aid of a more competent person. This person could either be a capable peer, an adult or a teacher. From assessment strategies such as pair work or group work, children who lack specific skills and techniques usually benefit from more capable peers. Thus, assessment is supposed to be administered simultaneously as the learning is taking place to determine at what stage the individual children can perform the given task correctly. This is because whatever is observed needs to be documented (Smidth, 2005). Subsequently, this enables the teachers to plan appropriate assessment tasks for individual children in future tasks.

In addition, the Sociocultural theory proved to be relevant not just in this study but in another study by Solovieva and Quintanar (2016). For instance, in their study, the scaffolding provided to children when assessing children's cognitive abilities during intellectual tasks showed that external help often provides children with the critical insight to perform according to their cognitive abilities at their respective levels. For instance, the study showed that when children were given new intellectual tasks at three levels of orientation through external help, most of them from all groups managed to fulfil new tasks after receiving external help. The differences were attributed to the help rendered in all groups.

In addition, the statistical analysis showed a significant correlation between the level of help received, the degree of fulfilment of the task, and the children's socio-cultural group. This affirmed what Vygotsky (1978) postulated that when a learner is in the Zone of Proximal Development (ZPD) doing a particular task, providing the most appropriate assistance will give that learner enough insight and motivation to succeed in the task, which in turn is an opportunity for the teacher to assess how the learner has succeeded. According to Swim and Watson (2011:50), "Vygotsky hypothesised that higher cognitive processes develop from verbal and non-verbal social interactions. This is accompanied when more mature individuals instruct less mature individuals within their Zone of Proximal Development."

Furthermore, Vygotsky (1962) illustrates the significance of language in social contexts and affirms that language is important for cognitive development and critical thinking. He postulates that the child's language skills often influence the child's cognitive abilities, just like social interaction skills tend to influence a child's language development. Given such dynamics, teachers are expected to focus on assessing knowledge and facts and always consider assessing the children's individual ability to reason and solve problems. When conducting an assessment, teachers should bear in mind that developmental domains are interdependent and interrelated.

Thus, a teacher's role when conducting assessment in such instances is to assess both extrinsic and intrinsic factors that contribute to a child's level of achievement in order to avoid assessment bias. Therefore, it can be stated that Vygotsky's sociocultural theory (1978) was used in this study because it provided the needed context, backup, guidance and interpretation required to understand the assessment practices used by teachers in ECE Centres in Lusaka, Zambia. In particular, the theory was relevant to the study because it exemplified the important role teachers play in facilitating assessments that have the potential to influence children's development and academic learning in ECE Centres.

1.9 Conceptual framework

The conceptual framework designed on "Assessment practices used by teachers in ECE Centres" aims to provide the context and guidance to interpret and understand the phenomenon under study. Some scholars suggest that conceptual frameworks should serve a particular purpose and must be rooted in any of the verifiable sources namely, experience, literature and theory (Anfara and Mertz, 2015; Booth, Colomb, Williams, Bizup and Fitz-gerald, 2016, Marshall and Rossman 2016; Maxwell, 2013; Ravitch and Riggan, 2017; Robson and McCartan, 2016). Therefore, the conceptual framework employed in this study emerged as an outcome of the author's review and analysis of literature on assessment practices in ECE.

According to Adom, Hussein and Adu-Agyem, (2018), a conceptual framework guides the paths of research and offers the foundation for establishing its credibility. Thus, a conceptual framework "is the researcher's understanding of how the research problem will best be explored, the specific direction the research will have to take, and the relationship between the different variables in the study" (Grant and Osanloo, 2014:16-17). Furthermore, the framework in this current study was relevant as it was used to check whether or not the findings agree with the framework as suggested by Liehr and Smith (1999) cited in Imenda (2014), who assert that a conceptual framework for research is a structure that provides guidance for the researcher, and after the analysis of data, the framework is used as a mirror to check whether the findings agree with the framework or whether there are some discrepancies.

In addition, Miles and Huberman, 1994 cited in Adom, Hussein and Joe (2018:439), suggest that a conceptual framework can be, "graphical or in a narrative form showing the key variables or constructs to be studied and the presumed relationships between them." Therefore, both narrative and graphical illustration have been included in this current study for easy interpretation and understanding of the phenomenon under study.

As teachers gather information about children's development and academic learning through a range of formative and summative assessment practices, their assessment practices may be influenced by many factors. For instance, the framework suggests that assessment practices by teachers are likely to be influenced by the teachers' knowledge in early childhood assessment and the challenges experienced by teachers in early childhood assessment. Therefore, the framework proposes that depending on the teachers' knowledge of early childhood assessment, that is what will determine the assessment practices by teachers in ECE Centres. On the other hand, the assessment practices by teachers in ECE Centres often reveal to what extent teachers are knowledgeable about early childhood assessment. Subsequently, the teachers' level of knowledge is what will determine the teachers' choice of assessment strategies used to assess children at ECE Centres (Earl, 2013; MESVTEE, 2014 b; MESVTEE, 2013; Neaum; 2016). Eventually, the underlying factors are what will determine the assessment results which could be authentic or compromised.

While the framework has illustrated some assessment strategies that teachers use for assessment in ECE Centres, teachers have many options when it comes to formative and summative assessment strategies. Examples of formative assessment strategies, among others are question and answer sessions, curriculum-based measurement, teacher-designed assessments, oral assessments, homework, observations and portfolios whilst examples of summative assessment strategies include portfolios, performance assessments, mid-term tests and end of term-tests (Dixson and Worrell, 2016: MESVTEE, 2013, Neaum, 2016; Wortham, 2005; Black and Wiliam, 1998). The researcher will endeavour to briefly explain the named assessment strategies outlined in the framework starting with formative assessment strategies.

The first example is 'question and answer sessions.' Although the researcher is of the view that one of the aims of question-and-answer sessions is to assess how much knowledge the learners have acquired on a particular subject matter by engaging them in a discussion, Killen (2007:134) contends that "question-and-answer sessions are not

discussions. The questions in a discussion are used to help learners gain knowledge rather than to allow them to demonstrate their knowledge."

Secondly, 'Curriculum-Based Measurement' (CBM) as an assessment strategy is described as "a formative assessment approach that involves giving students repeated and short criterion-referenced tests in a particular subject area in order to determine a student's level of skill at a particular point in time, but also as it progresses over time" Yell and Stecker (2003) cited in (Mattatall, 2011:63). On the other hand, CBM is also described as "a standardised process of obtaining data regarding a student's acquisition of skills in reading, writing, math, and spelling" (Cusumano, 2007:24). Although it is common for teachers to use Curriculum-Based Measurement as an assessment strategy in ECE Centres, little information was available on how teachers in ECE Centres implement the strategy.

The third formative assessment strategy is called 'teacher-conducted assessment' and it permits the "teacher to obtain more specific information about each student's knowledge and skills relative to the instructional objectives of the class," (Wortham, 2005:89). This assessment strategy is also known as 'teacher-designed assessments.' In particular, "teacher-designed assessments support other evaluation measures, enabling the teacher to make more accurate decisions for the instruction of individual students" (Wortham 2005:154). For instance, paper-and-pencil tests have been cited as a good example of 'teacher-designed assessments' if the students who are engaged in paper-and pencil test activities can write independently (Wortham, 2005). This implies that teachers should be very observant of how students in ECE Centres use their fine-motor skills in other assessment tasks before they could be assigned work that requires them to write independently.

The fourth formative assessment strategy often used by teachers in ECE is called 'Oral assessment' defined as a "direct means of assessing students' learning outcomes by questioning them" (Otieno, Aloka and Odongo, 2015). This strategy is easy and quick to implement. It as an easy option in contexts where there are too many students in one

classroom. However, another line of thought suggests that "oral assessments cannot contribute to planning the curricula for the next educational step or improving learning and teaching because such assessments remain in the minds of evaluators, rendering collegial interpretation of the data impossible" (Nah and Kwak, 2011:68). Thus, oral assessment as an assessment strategy may not be very beneficial to the students if not properly implemented.

The fifth formative assessment strategy is 'homework.' This is one of the assessment strategies teachers like using in ECE Centres. Davidovitch and Yavich (2017:90) define homework as "all study activities, tasks, and assignments that students perform outside the formal setting of the classroom, normally not in the presence of a teacher." Perhaps teachers like giving homework to their students because it serves many purposes. For instance, Cooper (1989) asserts that homework can be used for the learner's practice, extension of content knowledge and for home integration purposes. For instance, homework can vary according to the social context in which they are carried out. Certain assignments are meant for the children to complete independently while some homework requires involvement of a parent, a sibling or perhaps a friend or it may require working in groups in order to produce a single product (Cooper, Robinson and Patall, 2006).

However, because of the young age of students in ECE Centres, it is recommended that homework is done with the help of a more knowledgeable person who could be a parent, guardian or an older sibling. Most importantly, "parents, teachers, and students need to collaboratively find the accurate individual homework plans to help increase student engagement, homework completion, and student achievement" (Minke (2017:35).

The sixth example is called 'observation.' It is also used as a formative assessment strategy in ECE. Neaum (2016) describes observation as a method of assessment where teachers gather data not by asking for information but by closely watching learners perform some actions and then the teacher records and documents whatever has been

observed. Similarly, according to Smidth (2005:18) observation is "taking careful note of everything said or done by a child or children over a defined period of time in a particular setting or context." Observation is a subject of interest to the researcher because the revised Zambian ECE curriculum postulates that assessment through observation is an integral part of the curriculum although it was not clear how teachers were conducting observations in ECE Centres. Furthermore, it should be noted that observation as an assessment strategy requires a lot of preparation for it to be effective. For instance, a teacher should adequately prepare well in advance how the observation will be done, where it will be done, when it will be done, why it should be done, what should be observed and most importantly, how the observation results will be documented or recorded. In order to have authentic assessment results when conducting observations, it is imperative to use appropriate assessment tools such as *anecdotal records, running records, time sampling, event sampling, checklists and rating scales* (Wortham, 2005). Briefly,

> *An 'Anecdotal' is a written description of a child's behaviour. It is an objective account of an incident that tells what happened, when and where;" … A 'Running record' is another method of recording behaviour. It is a more detailed narrative of a child's behaviour that includes the sequence of events;" … Meanwhile, a 'Time sampling' is used to record the frequency of a behaviour for a designated period. The observer decides ahead of time what behaviours will be observed, what the time intervals will be, and how the behaviour will be recorded;" … An 'Event sampling' is used instead of time sampling when a behaviour tends to occur in a particular setting rather than during a predictable time period;" … "A 'Checklist' is a list of sequential behaviours arranged in a system of categories. The observer can use the checklist to determine whether the child exhibits the behaviours or skills listed;" … and "the 'Rating scale' provides a means to determine the degree to which the child exhibits a behaviour or quality of that behaviour. Each trait is rated on a continuum, allowing the observer to decide where the child fits on the scale" (Wortham, 2005:97-105).*

The last example on the list of formative assessment strategies presented in the framework are 'portfolios.' Depending on the purpose of assessment, a portfolio can also be used as a summative assessment strategy in ECE. Thus, portfolio as an assessment

strategy will be exemplified as the researcher gives more information on summative assessment strategies.

Therefore, proceeding to summative assessment strategies, the examples given among others are 'portfolios,' 'performance assessments,' 'mid-term tests,' and 'end of term tests. Clearly, portfolios are an essential assessment strategy for both formative and summative assessments in ECE. Wortham (2005:205) postulates that "portfolios are a collection of a child's work and teacher data from informal and performance assessments to evaluate development and learning." This suggests that teachers should understand the tasks that constitute 'portfolios' and 'performance assessments. For instance, there are four types of portfolios which are used in ECE namely, working portfolios, evaluative portfolios, showcase portfolios and archival portfolios. According to Wortham (2005:208) A,

> *Working portfolio is used to collect examples of student work for future evaluation;" … an "Evaluative portfolio permits the teacher to evaluate the student's progress, both formative and summative;" … "Showcase portfolios are frequently used to share the child's accomplishments with parents" … whilst the "Archival portfolio provides information for the child's next teacher or other future teachers.*

When portfolios are used as an assessment strategy in ECE Centres, teachers and individual students are required to have their own portfolios which should be distinguished by the contents contained in each portfolio and the purpose it serves. For instance, a teacher's portfolio may be compiled by the teacher by documenting observation reports, checklists, work samples, assignment records, records of interviews, or any other evidence of achievement. On the other hand, a portfolio kept by a student may encompass various samples of the student's work over a period of time which a student can use for self-reflection, assessment and evaluation. Similarly, a portfolio for a teacher can be used for reporting a student's progress, assessment and evaluation (Wortham, 2005).

Although teachers and students may have individual portfolios, it is also possible for them to collectively compile a portfolio which both can use for reflection, assessment and evaluation. Parents are also expected to participate in this process. However, it is important for teachers to be very categorical on the role of parents in the compilation process of their child's portfolio. It is important for parents to know from the start what kind of samples of work they need to submit for inclusion in their child's portfolio (Wortham, 2005). When parents actively participate in this process, it gives a balanced perspective on how a student is progressing developmentally and academically. If anything, one may not be wrong to suggest that when parents become active participants in their child's education their child is likely to perform better developmentally and academically. In addition, it seems teachers who make good use of different types of portfolios in ECE Centres find it easy to follow the student's individual development and academic progression. However, since compiling portfolios requires the use of various materials such as folders, colouring paints, crayons, plain papers and many others, there is need for teachers to strategize on how the named materials can be procured well in advance to avoid any inconveniences which might make it practically difficult for them to use portfolios in ECE Centres.

The second example on the list of summative assessment strategies is called 'performance assessment.' Baron (1991) cited in Sung-Eun (2005:22) defines performance assessment as a "constructed response in which students are actively engaged in solving a realistic problem that demands more than simply recalling memorised knowledge." On the other hand, Wortham (1998) cited in Wortham (2005:13) asserts that "performance assessment is used because teachers in early childhood programs are seeking information about the child's development and accomplishments in all domains." Examples of performance assessments include engaging children in activities that require application of their skills and knowledge. In addition, it may also require assigning children tasks that focus on different developmental domains such as climbing a play equipment, building a tower using building blocks, narrating a story using pictures in a book, sorting objects using a specific

criterion and many others. Wortham (2005) affirms that performance assessments may be more beneficial when implemented using portfolios because of the way data is preserved through portfolios. Therefore, portfolios and performance assessment are linked and should be treated as such although it was not clear whether teachers link the two aspects in ECE Centres.

The third and fourth examples of summative assessment strategies are mid-term tests and End of term tests. According to Dixson and Worrell (2016:157) "summative assessments can be used at the end of a unit, chapter, quarter, or semester to assess and evaluate how much learning students have gained and retained." Some of the common summative assessments used in ECE Centres are mid-term tests and End of term tests. Apparently, the tests are usually conducted at the middle of a term and at the end of the term respectively. Although teachers use mid-term tests and end-of-term tests to assess children in ECE Centres, it was not clear how the tests were being conducted and how the teachers documented the assessment results. Otherwise, Kibble (2017:118) suggests that the best practice for summative assessment is to "monitor the fairness, acceptability, and impact of testing over time with routine surveying of stakeholders and comparison of test scores with other measures of student outcomes." This may imply that teachers should not just focus on the student's test scores minus taking into consideration other student outcomes measures that may directly impact the general performance of a student. The worst-case scenario would be using summative assessment results to determine who proceeds to grade one after completion of ECE. Since little information was available on how teachers conducted a summative assessment in ECE Centres, it was important to address the subject matter in this current study.

Looking at what has been exemplified so far on both formative and summative assessment strategies, teachers have options on how they wish to implement these assessment strategies in ECE Centres bearing in mind that there are several other assessment strategies available in ECE. Meanwhile, the framework also illustrates how

standardised assessment tools can be used for assessment in ECE Centres both formatively and in summative form. The framework proposes that the standardised assessment tools used by teachers to assess children's development and academic learning in ECE Centres have the potential to influence the assessment practices by teachers in ECE Centres, subsequently determining what assessment strategies and standardised assessment tools teachers use in ECE Centres.

The "Child Assessment Tool for Zambia" (CDATZ) is a standardised assessment tool that has been approved for use in ECE Centres in Zambia (Curriculum Development Centre, 2014 a), although there is another appropriate standardised assessment tool that could be readily available for use in ECE Centres (Fink, Matafwali, Moucheraud, Zuilkowski, 2012; Van Heerden, Hsiao, Matafwali, Louw, Richter, 2017; Matafwali and Serpell, 2014). However little information was available on whether the CDATZ was being used for assessment in ECE Centres and whether teachers were using other standardised assessment tools for assessment in ECE Centre.

Furthermore, with regards to "challenges experienced by teachers in early childhood assessment," the framework suggests that the challenges teachers might experience when conducting assessment may be as a result of the nature of assessment practices by teachers in ECE Centres, which are often influenced by several factors. The assumption is that depending on the assessment practices by teachers in ECE Centres, that is what might cause the challenges experienced by teachers in early childhood assessment. In the long run, the underlying factors will determine the assessment results that could be compromised or authentic. Eventually, if the challenges experienced by teachers in early childhood assessment are enormous, then it is most likely that the assessment results will be compromised. Otherwise, literature on the challenges experienced by teachers in early childhood assessment seems to suggest that misplaced assessment priorities, policy-related issues, teachers lacking knowledge on how to assess children, the commercialism of ECE Centres and lack of sufficient time to observe and document the assessment results were some of the main challenges experienced by

teachers in ECE (Basford, 2016; Kotor, 2014; Kitano, 2011; Kati and Jyrki, 2017; Rethza and Jamaluddin, 2010).

In summary, the framework suggests that the teachers' knowledge influences teachers' assessment practices in early childhood assessment and the challenges experienced by teachers in early childhood assessment. Thus, the framework suggests that depending on the teachers' knowledge in early childhood assessment, that will determine the assessment practices by teachers in ECE Centres. Equally, the assessment practices by teachers in ECE Centres will reveal to what extent teachers are knowledgeable about early childhood assessment. Subsequently, the teachers' level of knowledge is what will determine the teachers' choice of assessment strategies used to assess children at ECE Centres. Eventually, all these factors are what will determine the assessment results, which could be authentic or compromised. In addition, the framework proposes that the standardised assessment tools used by teachers to assess children's development and academic learning have the potential to influence not just the assessment practices by teachers in ECE Centres but also the choice of assessment strategies teachers use for assessment in ECE Centres.

Regarding "challenges experienced by teachers in ECE," the framework suggests that depending on the assessment practices by teachers in ECE Centres, that might cause the challenges experienced by teachers in early childhood assessment. Consequently, the underlying factors are what will determine the assessment results, which could be compromised or authentic. Eventually, if the challenges experienced by teachers in early childhood assessment are enormous, then it is most likely that the assessment results will be compromised. Otherwise, all things being equal, assessment practices by teachers in ECE Centres should generate authentic assessment results unless otherwise. An illustration of the conceptual framework on assessment practices used by teachers in ECE is shown in Figure 1.1 below:

FORMATIVE ASSESSMENT STRATEGIES
- Question & answer sessions.
- Curriculum-based measurement.
- Teacher- conducted assessment
- Oral Assessments.
- Homework.
- Observations.
- Portfolio.

Teachers' knowledge in Early Childhood Assessment

Assessment Practices by Teachers in ECE Centres

Child Assessment Tool for Zambia (CDATZ) & others

Formative Assessment

Standardised Assessment Tools

Summative Assessment

Challenges experienced by Teachers in Early Childhood Assessment.

SUMMATIVE ASSESSMENT STRATEGIES
- Portfolios.
- Performance Assessments.
- Mid -Term Tests.
- End of Term Tests.

Assessment Outcome

Figure 1.1: Conceptual framework on assessment practices used by teachers In ECE Centres

1.10 Significance of the study

This study sought to establish the assessment practices used by teachers in Early Childhood Education Centres (ECE) in order to add to the existing body of knowledge and literature on assessment practices used by teachers in ECE Centres, by demonstrating how teachers' assessment practices in ECE have the potential to influence children's development and academic learning. In addition, this study may be used as a reference point to inform the Ministry of General Education, Curriculum Development Centre and other stakeholders interested in assessment practices to come up with best practices of assessment through observation, aimed at showing the gaps and benefits of using observation as an assessment strategy in ECE Centres. Furthermore, it is anticipated that the results of this study may provide insight on what constitutes acceptable formative and summative assessment in ECE and hopefully, influence the development of policy guidelines that can facilitate for effective implementation of assessment in ECE Centres. Furthermore, the study may inspire stakeholders such as education researchers, education planners, curriculum specialists and teacher trainers to embark on a broad spectrum of future research on assessment in ECE and other related topics.

1.11 Limitation of the study

i. The conceptual framework for this study was constructed by reviewing literature related explicitly to assessment practices in ECE. Therefore, by not incorporating other conceptual resources that may be of equal or greater importance, the implication is that the researcher's understanding of how the variables in this current study connect may have been narrow. Nevertheless, the researcher endeavoured to treat the literature not as an ultimate authority but as a valuable yardstick to provide the context and guidance to interpret and understand assessment practices used by teachers in ECE Centres.

ii. During observations, there was a possibility that teachers might have consciously or unconsciously changed their assessment practices because of the researcher's

presence. As a result, observational accounts of their behaviour might not have accurately represented their assessment practices daily. For instance, the teacher's planned work (in the lesson plan book), might have indicated that the teacher intended to use paper and pencil-tests to assess the children, but because of the presence of the researcher, the teacher might have decided to use a different assessment strategy. However, despite experiencing such situations, the documentary analysis tool enabled the researcher to obtain supplementary data that provided the needed information to have a better understanding of the actual assessment practices used by teachers in ECE Centres.

1.12 Operational definitions

Assessment – "The process of gathering information about children from several forms of evidence, then organising and interpreting that information" (McAfee, Leong and Bodrova, 2004:3).

Assessment practices – A range of procedures and approaches which could be formative or summative implemented by teachers to gather information about children's development and academic learning in ECE Centres (MESVTEE, 2013).

Assessment strategies – A variety of methods teachers use like simple screening tools and evaluation techniques prescribed in the curriculum or developed by teachers or staff members in an Early Childhood programme to track and measure children's development and academic learning (Wortham, 2005).

Authentic assessment – An assessment that "must have some connection to the real world; that is, they must have a meaningful context. They are contextual in that they emerge from a child's accomplishment" (Wortham 2005:13).

Child development – is a "fundamental part of human development, emphasizing that the brain architecture is shaped in the first years, from the interaction of genetic

inheritance and influences of the environment in which the child lives" (De Souza and Veríssimo, 2015:1098).

Documentation – A "process of keeping track of and preserving children's work as evidence of their progress often focuses on identifying, collecting, and describing the evidence of learning in an objective, non-judgmental manner" (New Jersey Department of Education, 2014:15).

Early Childhood Education (ECE) – "Early Childhood Education aims at helping children acquire knowledge, skills, attitudes and positive values to attain developmental milestones" (MESVTEE, 2013: xi).

Early Childhood Education Centre – An institution that provides a range of educational services, care and play activities to enhance child development for children between three and six years old. Terms used include Nursery and Preschool (Curriculum Development Centre, 2014 b).

Formative assessment – is a process that uses various strategies to gather information on student progress. At the same time, learning happens to determine what students understand and what they still need to learn to master a goal or an outcome. Examples of strategies used for assessment include observations, homework, question and answer sessions, portfolios, curriculum-based measures, discussions and informal interviews (Regier, 2012).

Observation – A method of assessment where teachers gather data not by asking for information but by closely watching learners perform some actions, and then the teacher records and documents whatever has been observed (Neaum, 2016).

Principles of assessment – Guidelines that show the technical requirements that each assessment must meet and what should be considered to ensure that the assessment results are accurate and valuable (Shepard, Kagan and Wurtz, 1998).

Standardised assessment tools – These are assessment tools used to gather relevant information on the children's developmental milestones, school performance, the prevalence of learning disabilities, or behaviour problems for the assessors to make crucial decisions (Curriculum Development Centre, 2014 b).

Standardised test – A test that is administered and scored methodically to produce a score that can be compared to a predefined population (norm-referenced) or some predetermined criterion (criterion-referenced) (Frans., Post., Oenema-Mostert and Minnaert, 2020).

Summative assessment – These assessments are periodically given after a specific instructional period to determine what children know and do not know (measure), they are also used to certify, and report the level of children's learning so that reasonable decisions can be made about the children's academic performance. Examples of strategies used for assessment include end of term tests, mid-term tests, performance assessments and in-class examinations (Earl, 2013).

1.13 Summary of chapter one

The first chapter has provided background information on the importance of assessment in ECE and its integral role in child development and academic learning. It has exemplified how assessment in ECE is different from any other form of an assessment conducted in upper grades. The most remarkable difference is in the way children learn and conceptualise concepts. Thus, teachers must use various assessment strategies and tools to gather relevant information to make decisions on children's developmental milestones, school performance, or prevalence of learning disabilities to understand children's development and learning fully. This chapter has shown that assessment practices used by teachers in ECE have the potential to influence children's development and academic learning. The chapter has also discussed the significance of using a theoretical framework and conceptual framework in this study. The next chapter reviews literature that is relevant to the current study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview

This chapter reviews the literature on assessment practices by teachers in Early Childhood Education Centres and on related literature that is regarded as having significance to this study. A literature review serves several purposes in a dissertation or thesis, but most importantly, a good literature review shows that,

> *You are aware of what is going on in the field, and thus your credentials; that there is a theory base for the work you are proposing to do; how your work fits in with what has already been done as it provides a detailed context for your work; that your work has significance and that your work will lead to new knowledge* (Hofstee, 2015:91).

Thus, literature review aims to describe, evaluate, and clarify relevant literature (Miles., Huberman and Saldana, 2014). Therefore, the researcher described certain critical concepts related to assessment practices published by accredited scholars and researchers. This includes a review and analysis of documents such as books, journals, dissertations, theses, and websites. By critically analysing the intellectual arguments and opinions of different authors, experts and scholars, the researcher had a deeper insight into the research problem.

The chapter reviews the literature on assessment practices by teachers in ECE. It begins with a description of assessment practices in ECE and continues with reviewing what constitutes assessment of learning and assessment for learning. What follows is a review of assessment strategies teachers employ to track and measure the progress of children's development and academic learning in ECE, exemplified by distinguishing the strategies used in formal and informal assessments. In addition, the different strategies teachers implement to assess child development and academic learning in ECE Centres are discussed. It proceeds with a review of studies on observations in ECE, mainly focusing on how observation is used as a mode of assessment in ECE. Next is a review of studies on documentation of assessment in ECE showing the relevance of documentation

in ECE and how it is linked to observations conducted in ECE Centres. This is followed by a review of standardised tests and standardised assessment tools in ECE, focusing on their role in early childhood assessment.

Furthermore, a review of principles guiding assessment in ECE is expounded to exemplify their role in early childhood assessment. Various sub-headings on principles that guide assessment in ECE are discussed in detail. Thereafter, it proceeds with a review of studies focusing on factors that influence assessment practices in ECE and how assessment is conducted in ECE. Furthermore, a review of studies on challenges in early childhood assessment is explained, mainly to show how challenges experienced by teachers in early childhood assessment may impede authentic assessment in ECE Centres. Finally, a review of current studies on ECE and assessment in Zambia are deliberated to show the existing gap in research in the area of assessment practices used by teachers in ECE.

2.2 Assessment practices in ECE

Assessment practices in ECE have undergone a remarkable transition, compelling teachers to adopt procedures and approaches that assess children's development and academic learning in ECE from a holistic point of view. The current study focuses on a range of summative and formative procedures and approaches administered by teachers to gather information about children's development and academic learning in ECE Centres (MESVTEE, 2013). The discussion on assessment practices will distinguish the two forms of assessment to understand the contradictions between them. Earl (2003) believes that it is always important to know which one you are using and why you are using it so that you use that assessment wisely and well. Further, observation as a form of formative assessment and its documentation process will be discussed because it is usually an integral part of formative assessment in ECE.

2.2.1 Assessment of learning

Assessment of learning, also known as summative assessment (Earl, 2003), is the most predominant form of assessment in schools, although Neaum (2016:149) is of the view that "assessment in Early Years settings needs to be predominantly formative, not summative." The purpose of summative assessment of learning is to measure, certify, and report the level of students' learning, so that reasonable decisions can be made about students (Earl, 2013). It involves reporting on learning, whether in the classroom and school contexts or broader national accreditation frameworks (Crossouard, 2011). For instance, Earl (2013) postulates that summative assessments can also be conducted at a small scale within an institution to certify learning and report to parents and children about the children's progress in school by signaling their relative position compared to other children.

However, this kind of approach is now being discouraged in ECE because a child's academic performance is supposed to be interpreted according to the child's own progression and not in comparison with peers. For instance, a study by Black and William (1998), showed that when the grading function is overemphasized and the learning function under-emphasized, it can negatively affect the student because the low performing students are likely to be demotivated and lose confidence in their capacity. "Assessment of learning is typically done at the end of something (e.g., a unit, a course, a grade, a key stage, a program) and takes the form of tests or exams that include questions drawn from the material studied during that time" (Earl, 2013: 29). The results are generally expressed as marks or letter grades and summarized as averages of several marks across several content areas to report to parents and other interested parties.

A practical example that can be given is a situation where children in an ECE Centre are subjected to mid-term tests and end of term tests. Thereafter, the children's performance is then graded and consequently, they are given numbers to symbolize individual position in comparison to how other children have performed after finding the class average. This kind of approach is problematic as it does not give a true reflection of

a child's academic performance considering that this kind of examination often focuses on intellectual capabilities that is not supposed to be the case in ECE. Instead, assessments should be holistic.

Furthermore, summative assessments have standardised methods of testing, which are extrinsically motivated, represented by marks, transcripts and diplomas; they are built on strategies to motivate learners, provide information about learner's performance, serve to select or group learners, and certify learning and award qualifications. Some of the examples of summative assessments are projects, portfolios, in-class examinations, state-mandated examinations, end of term or mid-term exams, end of year testing, unit or chapter-end interim assessments, final papers, cumulative portfolios, standardised tests and placement tests (Dixson and Worrell, 2016; Organization for Economic Cooperation and Development (OECD), 2013; Trumbull and Lash, 2013; Bennett, 2011, Wortham, 2005). Going by this description, summative assessments in ECE ought to be conducted with caution.

In fact, the researcher was interested in establishing whether summative assessments were being administered in ECE Centres in Lusaka and how they were being administered. For instance, although summative assessment methods, particularly standardised testing, are often considered to be more reliable than the alternatives because they tend to be easier to interpret and are not influenced by a particular assessor or assessment (Pepper, 2013). However, the focus on reliability in summative assessment has often compromised the validity of assessment (Lau, 2015) in ECE. There is need to implement summative assessment with caution in ECE. This is because assessment in ECE is not just about assessing for knowledge and facts but also assessing the learners' ability to reason and solve problems (Wortham, 2005; Gronlund, 2006). "Teachers should provide stimulating environments that build on the child's existing knowledge, skills, values and experiences" (MESVTEE, 2013: xiv). Perhaps, if summative assessments in ECE could be designed using basic language, phrases, and illustrations

that children are familiar with, in that case, it may help keep summative assessments at the expected level of children's understanding for each given age-group.

Most importantly, since summative assessments usually influence how children progress at different levels of development and learning, it is important to ensure that the assessment aligns with the goals and expected outcomes of instruction. For instance, in circumstances where ECE Centres test for school readiness as a form of summative assessment, it is essential to be categorical on what skills, knowledge, and attitudes the children would be assessed on in order to align the assessment to the intended goal, which would be to gather sufficient information to determine how well a child is prepared for a specific ECE programme. For instance, in Zambia, the Child Assessment Tool for Zambia (CDATZ) "can be used to ascertain school readiness of a child within the five to six years range" (Curriculum Development Centre, 2014 a: 8). However, little was known about how teachers use this assessment tool in ECE Centres.

Although some ECE Centres conduct readiness assessments, it has been argued that readiness assessments are misused in most societies when assessment results at ECE Centres are used to exclude children from programmes rather than to identify areas where extra support is needed (Washington State, 2008). Meanwhile, there is no consensus and consistent opinion among experts about the knowledge and skills that are required for entry into an ECE Centre. However, "typical requirements into Kindergarten would include beginning knowledge of personal information, concepts, basic fine and gross motor skills, letters and numbers, communication, and social behaviour" (Washington State, 2008:25).

In addition, summative assessment can also be used for diagnostic purposes. In diagnostic assessment, a thorough and comprehensive assessment of early development and learning is done for the purpose of identifying specific learning difficulties and delays, disabilities, and specific skill deficits, as well as evaluating eligibility for additional support services, infant toddler early intervention, and special education, (Washington State, 2008). Notably, diagnostic assessments are usually conducted by trained

professionals using specific tests. Thus, if teachers suspect any delay, then a diagnostic assessment can be recommended for proper diagnosis. Unless a teacher knows what is wrong with the child, it might be challenging to provide the needed support for the child to thrive developmentally and academically. Clearly, integrating children with special educational needs in the mainstream of educational institutions comes with its challenges activated by inappropriate infrastructure, unsuitable materials and insufficiently qualified personnel (Banja and Mandyata, 2018). Although it is not clear to what extent children in ECE Centres may be affected, such a situation implies that children with special educational needs might not receive adequate support to make significant progress developmentally and academically. Otherwise, teachers have a huge task to ensure that individual children in their care receive the support they need to thrive despite the challenges.

2.2.2 Assessment for learning

Assessment for learning is also known as formative assessment (Earl, 2013). According to Regier (2012), formative assessment is a process that uses informal assessment strategies to gather information on student learning. Black and Wiliam (1998) are of the view that formative assessment is considered as formative if it shapes subsequent learning. Thus, they suggest that formative assessment is not an instrument or an event but a collection of practices with a common feature leading to some action that improves learning. Therefore, it is essential for teachers not to succumb to the weakness of formative assessment which usually encourages superficial and rote learning hence concentrating on recall or isolated details, which pupils soon forget. It also seems that when it comes to formative assessment, teachers usually fail to discuss, review and reflect on the assessment strategies that they use with peers. As a result, there is very little reflection on what is being assessed (Black and Wiliam, 1998).

It is therefore important for teachers to be cautious when using formative assessment during the learning process so that the information obtained is used to adjust their instruction to better satisfy learner needs. Examples of formative assessment practices

include questioning and answer, discussions, drawings, observations, informal Interviews, quizzes, entrance slips, presentations, concept maps, clicker questions, surveys, multiple choice questions or tests (often not included in the grading process), home work; self-evaluations; reflections on performance and curriculum-based measurements (Dixson and Worrell, 2016; OECD, 2013; Trumbull and Lash, 2013; Regier, 2012; Bennett, 2011; Cooper, 2007; Wortham, 2005).

Furthermore, teachers in ECE Centres are expected to use assessment for learning as an alternative perspective to traditional assessment in schools. They are expected to shift from summative to formative assessment, from making judgments to creating descriptions that can be used to plan for children's development and learning. Most importantly, formative assessment is relevant when teachers design assessment tasks that open a window on what the learners know and what they can do already. To this end, Stobart (2012:233) contends that "if the purpose of formative assessment is to stimulate further learning, then validity is about whether this is achieved." Therefore, teachers are expected to play a crucial role in ensuring that they set learning goals or learning targets that would enable them to give feedback about the children's performances on time (Brookhart, 2001; De Luca LaPointe-McEwan and Luhanga, 2016).

When implementing assessment for learning, teachers collect a wide range of data so that they can modify the learning work for learners. This approach enables teachers to gain more insight of the learners' capabilities especially if they are engaged in tasks that require some level of explanation or those that require responding to "why" and "how" questions. One such task could be homework. When learners consistently do their homework, it reinforces teacher-parent partnership, classroom teaching and learning (Cooper, 2007). Notably, for homework to be effective, there is need for parental support, understanding and participation. The assumption is that when parents or guardians supervise their children's homework, the children are more likely to do their homework in a meaningful manner (Cooper, 2007). However, for homework to be effective, teachers also need to be strategic on how they phrase certain questions in

tasks that they design for their learners. It is important to ensure that the instructions given to children are clear, failure to which parents may find it practically difficult to assist their children with homework, hence defeating its purpose.

Notably, scholars suggest that homework does not just bring together children, families and teachers in a common effort to improve children's learning, homework also helps children develop problem-solving skills, study skills, self-discipline, better time management and somehow increases children's inquisitiveness (Minke, 2017; Cooper et al., 2006; Cooper, 1989; Cooper, Robinson and Patall, 2006). However, although teachers use homework for assessment, it was not known to what extent it was being used in ECE Centres in Lusaka. It was also not clear whether it was yielding the desired results as a mode of formative assessment. Table 2:1 below is a summary of the characteristics of summative and formative assessment.

Table 2.1: Characteristics of summative and formative assessment

Assessment practices	Formative Assessment	Summative Assessment
What is it?	Assessment that gathers information about student learning to determine what students are understanding and what they still need to learn to master a goal or outcome.	Assessment that shows what students have learned.
When is it used?	During a lesson or unit of study. Is used continually by providing descriptive feedback.	At the end of a lesson or unit of study. Is presented in a periodic report.
Why is it used?	To track students' Progress. To make changes to instruction. To improve teaching and learning.	Evaluates what students learn. For placement and promotional decisions. To provide evidence of what students learned. To assigns a grade to students' understanding. To certify.
Formality	Usually, informal	Usually, Formal
Examples	Observations. Homework. Question and answer sessions. Self-evaluations. Portfolios. Reflections on performance. Curriculum-Based Measurement Games. Discussions. Informal interviews.	End of Term Tests. Mid-Term Tests. Final Papers. Projects. Portfolios. Performance assessments. In-class examinations. National examinations.

Source: Adapted from Dixson & Worrell (2016)

2.2.3 Assessment strategies in ECE

Assessment strategies are a variety of methods teachers use like simple screening instruments and evaluation techniques prescribed in the curriculum or developed by teachers or staff members in an Early Childhood programme to track and measure the progress of children's development and academic learning (Wortham, 2005). The assessment strategies that are administered in ECE could either be formal (summative) or informal (formative) as illustrated in Table 1.1. Formal assessments are administered according to prescribed time limits, instructional and scoring procedures, administration guidelines and are characterized by standardised tests designed "to measure abilities, achievements, aptitudes, interests, attitudes, values, and personality characteristics" (Wortham, 2005: 29). Examples of such formal assessments can be categorised as; achievement tests, readiness tests, developmental screening tests, intelligence tests and diagnostic tests (Wortham, 2005).

On the other hand, informal assessments allow children to demonstrate what they know, in situations that are familiar and comfortable to them which permits the teachers to document the children's progress to inform teaching and decision making about their learners (MESVTE, 2013; Morrison, 2009). One advantage of "informal assessments is that they can be derived directly from the teacher's educational objectives and curriculum or from a commercial textbook curriculum" (Wortham 2005: 90). Additional examples of informal assessment strategies among others cited by Wortham (2005) include teacher-designed measures; pencil and paper test; performance assessment, teacher-directed interview; technology-based assessments and portfolios. These assessment strategies help to measure and track the child's progression at ECE Centres because through the process of assessment, teachers can collect evidence of each child's learning and development, enabling them to analyse and interpret it to make appropriate intervention measures in the best interest of the child (Bagnato, Neisworth and Pretti-Frontezak, 2010).

In Malaysia, a study was conducted to examine the assessment practices by teachers. The study entitled "Pre-school Teachers' Assessment Practices, Knowledge and Perceptions in selected districts" (Rethza and Jamaluddin, 2010) revealed that teachers mostly used informal assessment strategies. Collection of samples and direct observation were used by teachers. However, the pre-school teachers often concentrated on assessment of reading, writing and arithmetic. Teachers focused on assessment emergent writing and reading, speaking skills, number recognition, counting, fine and gross motor, and assessment of the ability in drawing and colouring. As a result, the approach disadvantaged the children because other domains were not assessed as demanded by a curriculum that sought to assess children from a holistic point of view, hence causing an assessment imbalance.

Furthermore, there was limited documentation and recording of what was being assessed by the teachers although some form of assessment recording in the checklist and report card along with scoring of the children's written work was done. This includes, giving grades to signify a child's capability. However, the way it was done did not depict the children's full capabilities in all developmental domains hence demonstrating the occurrence of ineffective and unjust assessment. Further, the study revealed that Pre-school teachers had low training and lacked proper assessment skills. Consequently, the teachers were reported to have had constraints conducting assessment due to large class sizes, high teacher-child ratio and mixed ability classes.

As a result, this affected the assessment outcome hence the study recommended that teachers needed more training and support for them to acquire more knowledge in all aspects of classroom assessment. Teachers needed to be trained on how to utilise appropriate assessment strategies, how to reflect on the assessment results and interpret them and how to communicate assessment results to the parents.

Another study conducted in Ireland by (Navarrete, 2015). It focused on assessment strategies educators employed and the associated support and challenges they experienced in ECE. In particular, the study investigated early childhood educators'

perspectives and practices regarding assessment in the early years (Navarrete, 2015). The study showed that educators held diverse views and had varying approaches to assessment by using different tools and methods. Nonetheless, assessment largely served as a process of facilitating children's learning and development and a tool to produce information about children. Furthermore, children often had limited participation in the assessment process although collaboration between teachers and parents played an important role in aiding assessment practice. In addition, it was revealed that time, structural factors, qualification and training of teachers were some of the factors that contributed to the way in which assessment was carried out.

Consequently, one may not be wrong to suggest that the assessment outcome is influenced by these same factors which may be negative or positive. Otherwise, there was consensus among participants that assessment was valuable for supporting children's learning and development. Hence, the study suggested that there was need to take measures to expand educators' knowledge and expertise on the theories and practicalities of assessment so that teachers may be helped to conduct assessment with ease and confidence. This in turn may help to produce assessment results that can be relied upon.

In Ghana, a study entitled "Classroom assessment practices of Kindergarten teachers in Ghana" (Kotor, 2014) was conducted. The study aimed at investigating kindergarten teachers' assessment practices. In particular, the study looked at the teachers' modes of assessment frequently used, reasons for selecting a particular mode of assessment and the impact of performance assessment on the teachers' professional development (Kotor, 2014). Among some of the results, the study revealed that paper-and-pencil test mode of assessment was the most frequently used by the teachers. Further, teachers were not using developmentally appropriate assessment practices in assessing children's learning outcome. This implies that the assessment results would be compromised hence defeating the purpose of assessing the learning outcome. In addition, teachers appeared to be using modes of assessment just to fulfil the expectations of parents and

educational leaders in order to keep their jobs without taking into account current knowledge and theories on children's learning, instruction and assessment practices in early childhood.

Furthermore, the study conducted in Ghana, showed that teachers did not have the requisite knowledge and skills to effectively assess the children's learning outcomes appropriately as they seemed to be teaching and assessing children's learning within their comfort zone by relying on traditional mode of assessment which was not in line with the curriculum. As a result, the scenario compromised assessment results and did not add value to children's development and learning. Whilst the study showed the teachers' frequently used modes of assessment strategies in ECE, little was done to show the exact knowledge gap in the assessment practices by teachers in ECE.

In South Korea, a study was conducted to investigate child-assessment practices in the context of Korean early childhood education and care settings (Nah and Kwak, 2011). In this study, the results revealed that although some teachers adhered to the prescribed implementation of child-assessment procedures that had been put in place by the government, some ECE settings did not implement the prescribed procedures systematically. This resulted in wide variation in goals, the types of assessment conducted, and the assessment strategies used by teachers across environments. As a result, in some cases teachers collected insufficient information regarding children hence could not inform their subsequent planning in the best interest of children's development and learning. Some of the inconsistencies were attributed to lack of guidelines for child assessment and training for teachers, lack of a common assessment framework, common tools and recording forms. Ultimately, when teachers choose not to abide by the prescribed assessment procedures, the assessment results are often compromised.

2.2.4 Observation and documentation in ECE

Studies have shown that observation is an integral part of assessment and that it is one of the most recommended mode of assessment in ECE (Gronlund and James, 2013; Neaum, 2016; Wortham, 2005). In fact, some scholars suggest that teachers and future teachers are expected to develop observational skills appropriate to the objectives of observation and the information they desire from the observation (Bill-man and Sherman, 1997; Harrington, Meisels, McMahon, Dichtelmiller and Jablon, 1997) cited in Wortham, (2005). However, whether teachers in ECE Centres possess the required skills to conduct Observations that would enable them to make accurate assessment of the children's development and learning is not always evident. What is certain so far is that observation as a form of assessment is important in ECE.

Teachers are therefore expected to use various specific assessment strategies and tools that can specifically be used for observations so that what is observed is properly documented. Among the recommended assessment tools that can be used when conducting observations are anecdotal records, running records, time sampling, event sampling, checklists and rating scales (Guddemi and Case, 2004; Neaum, 2016; Wortham, 2005). These tools enable teachers to document what they observe which would inform instruction in the best interest of children's development and academic learning.

Therefore, teachers are expected to observe as well as to document what they assess because teachers are not only accountable for what they teach and how they teach it but also how they conduct assessment. According to Morrison (2007), the act of observing and assessing provides the data that teachers need to plan for each child. This implies that teachers in early learning years have an enormous task of seeing to it that the needs of individual children concerning child development and academic learning are met. This requires identifying appropriate procedures that can provide the information the teacher might need to carry out assessments that are informative and

relevant. Below is an illustration of assessment as a Three-Way Process of Assessment expounded by Morrison (2007).
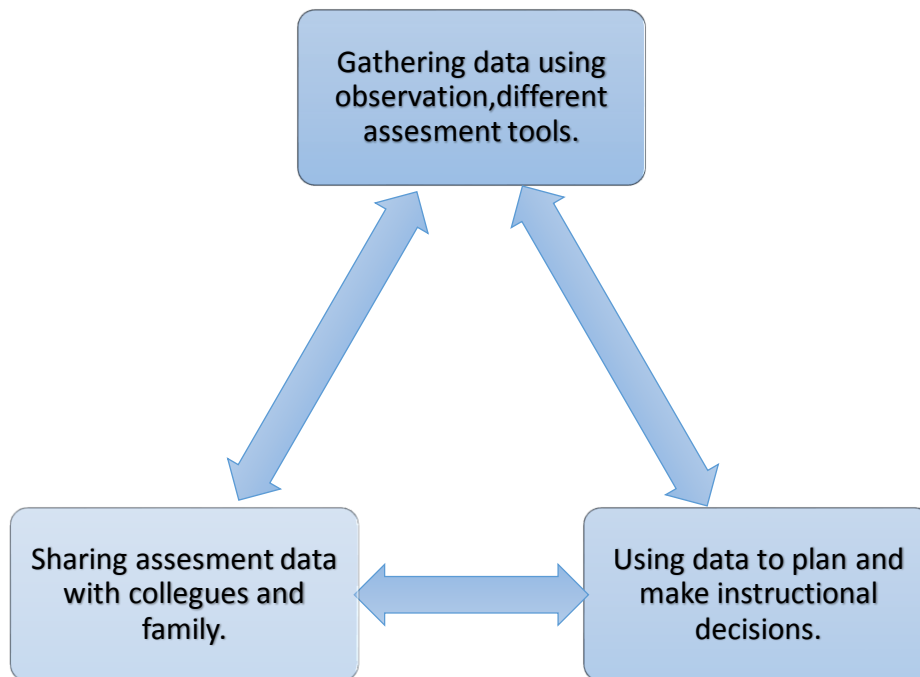
Figure 2.1: The three way-process of assessment.

Source: Adapted from Morrison (2007)

As shown in Figure 2.1, the main means for gathering information about young children is through observation and other tools. Thereafter the information collected should be used to plan and make instructional decisions which in turn should be communicated to colleagues and family because the process of assessment is ongoing, systematic and should generate the desired outcome (Morrison, 2007). This relates to what is postulated in the revised Zambian ECE curriculum, which suggests observation as the main assessment method in ECE (MESVTEE, 2013).

A study conducted in the United States entitled "Observation as a formal assessment tool in early childhood classrooms: A professional development module" (Thornton-

Lang, 2012), is said to have recorded positive results by using observation as an assessment tool. The study showed that by supplying a model of how to incorporate observational techniques that can be used by educators for assessment is necessary. This is because it makes it easy for the educators to meet their authentic goals and comply with the curriculum. Subsequently, children would also find it easy to learn and succeed in school. In addition, the study showed that educators documented their observations by writing down quick notes which they posted on a particular place which enabled educators to fill out the children's creative curriculum gold assessment charts later. In situations where educators/ teachers fail to take note of what they have observed, it becomes difficult to remember everything that was observed when children were engaged in a particular task. Consequently, it becomes difficult to track the children's developmental and academic achievement.

In addition, the study revealed that the use of videos and pictorial evidence (pictures taken when children are in action) helped educators to document what they observed. For instance, educators who had older children in their classrooms reportedly used running records to quickly gather relevant data. For instance, when conducting a group math lesson for four-year-old children involved in patterning and sequencing, an educator reportedly used a recorder to record the number of times individual children placed the tiles in the correct sequence (Thornton-Lang, 2012). Perhaps the initiative to record the children helped educators to obtain assessment results that were used to make instructional decisions as expected in formative assessment. Notable in this study is the revelation that there are many effective techniques that could be used to conduct observations for teachers to record authentic (reliable) assessment results. Among them, was the use of various but specific observational techniques implemented according to the developmental and academic needs of specific group of children. Educators acknowledged the fact that children were different and so were their developmental and academic needs.

However, one wonders how many educators/ teachers can consider such aspects in ECE Centres because some educators/ teachers would rather use techniques which are convenient to them without evaluating their effectiveness. Meanwhile, Neaum (2016) asserts that whatever method a teacher uses to record observations on children's learning, it is imperative to use the data collected to adjust instruction to meet the learning needs of the individual learners. Failure to do so defeats the purpose of assessment in ECE. Given that observation is an integral part of the revised Zambian ECE curriculum (MESVTTE, 2013), it was of interest to the researcher to establish how observations were being conducted in ECE Centres in Lusaka.

In a study conducted in Turkey entitled "Observation as an assessment tool in Early Childhood Education: A phenomenological case study of teacher views and practices," (Turupcu, 2014), the study revealed that assessment in ECE was a process-based issue which was as a result of a collection of assessment processes and that teachers mostly preferred observation as an assessment tool because they believed that observation was the basis of the whole assessment process. Teachers believed that the main contribution of observation was towards children. As such, during observations, teachers paid particular attention to the children's needs, interests and their problematic behaviours. This approach is recommendable because it enables the teachers to better understand the children's capabilities and constraints hence teachers would be better placed to know how to enhance the children's development and learning.

Thus, the study recommended that because of the rapid and continuous change in children's development, there should be interaction and a link between preschool and primary school regarding assessment of children as they transition to, primary. The suggestion was to have information documented by using a combination of checklists and observation forms which could easily be filled in by the teachers' conducting observations. Perhaps, if such practices are adopted in ECE Centres, it would ease the transition process because teachers in primary schools would know the children's

developmental and learning needs and would be better prepared to know how to help individual children.

Furthermore, in order to keep track of children's development and learning needs, the study recommended video recording some of the incidences in an ECE Centre for parents and all stakeholders because the recordings would be a good source of information on how children participate in the activities and a good assessment measure for the preparation of the educational programme. Additionally, the experts may find it easy to follow the educational applications in classrooms in detail through video recordings hence could provide suggestions to the teachers on how to enhance the quality of activities and assessment application in ECE classes.

On the other hand, the study revealed that the main obstacles faced by teachers during observation were identified as big class-size and documentation of observations in a systematic way. In order to deal with the issue big class-size, teachers reportedly grouped children in a classroom during observation. Although it might have been a good thing to group the children to mitigate the obstacles teachers faced, it is also recommended for children to be observed individually in order to have assessment results that reflect the children's individual capabilities. The argument is that teachers are expected to use the assessment results to plan and make informed decisions in the best interest of individual children. For instance, Smidth (2005) contends that there is need to document observation data because the assessment process leads to effective planning. This implies that when teachers fail to document their observations, the assessment outcome is likely to be compromised.

Gironlund and James (2013) postulate that documentation of observations in ECE is essential and that what should be documented should be factual and based on what teachers see and hear and most importantly, it should be based on that which the child does and speaks. Thus, the documentation assessment process should be directly linked to a set of clearly defined learning goals and should consist of materials that are culturally and linguistically appropriate (New Jersey Department of Education, 2014). For example,

the documentation of daily activities among several others involves taking note of lists of written records, photos, video recordings, children's work products such as artefacts, drawings, paintings and written texts (Catron and Allen, 2008).

In addition, some of the recommended practical ways to document observations among others are stick notes, clipboards with address labels, forms to list all the children's names, binders or notebooks with a section per child and File Folders with sticky notes or index cards (Gronlund and James, 2013). For instance, teachers can utilise labels or sticky notes when assessing children by carrying a clipboard with a sheet of labels (pre-printed with student names), or a pad of sticky notes and make observations as children mingle in the classroom. Since the labels or sticky notes will capture important assessment details of individual children, they can be placed in the observation notebook in the appropriate learner's section. The suggestion is for teachers to make use of the items in the best way possible during a lesson either as learners work in groups or individually, or after the lesson is complete. Thereafter, the teacher is expected to reflect on a specific aspect of the learning and make notes on the learner's progress toward mastery of that learning target and towards the adjustment of instruction. Whether these suggestions on how to conduct observations in an ECE Centre are practical, was of interest to the researcher.

Apparently, a study conducted in Finland on pedagogical documentation and their relation to everyday activities in early years (Kati and Jyrki, 2017) revealed that documentation patterning to standardised tests, observations, and portfolios was not yet fully exploited in the Finnish Early Childhood Education Care (ECEC). This was despite documentation being preferred as an inclusive method of evaluating, planning and developing ECEC in the curricula of many countries. Similarly, although the kindergarten teachers were trained to observe children on ethical issues regarding aspects of respecting children's rights and feelings, adherence levels were low. As such, the study recommended that there was need to encourage ECEC officers and educators to develop documentation further for it to be effective. However, if this was the scenario in a

country where ECE is mandatory and the facilities are often well equipped with ECE educational materials, one wonders what the status quo of documentation of assessments in a country like Zambia would be where ECE is still in its infancy in terms of its development. Meanwhile, Catron and Allen (2008) affirm that documentation should be viewed as a daily activity that allows the teachers to know the children well enough to plan appropriate interventions for them. Therefore, one may not be wrong to suggest that poor documentation of assessments in ECE Centres compromises intervention measures by teachers which in turn have the potential to affect the children's development and academic learning.

For example, a study conducted in Italy by Barrs and Drury (2017), showed positive benefits of documentation in the Early Years Education (EYE) services of Pistoia. The study revealed that documentation was essential because it provided a window (for multiple audiences) into children's learning journeys, and a mirror that reflected children's and teachers' experiences that constituted an important element in a reflective pedagogy. For instance, documentation is believed to have provided insights into the children's learning process and into teachers' roles especially that children were able to comprehend what learning really meant using graphic representations in long-term projects like "learning journeys" which often arise from a particular incident, or an individual child's interest in an activity which is explored to the later as a child documents the learning experiences.

In addition, the regular inclusion of families in documentation illustrated the collaborative partnerships between schools and homes hence creating a solid foundation of early education in Pistoia. It seems therefore, that when children's activities are documented in a systematic way and a steady collaboration is maintained between the teachers and the parents, children tend to progress systematically because both the teacher and the parents can follow the child's developmental milestones and academic learning at every given stage at the same time. However, it is essential for

teachers and parents to keep all documented information private and determine to use it for assessment purposes or to support child development and learning.

A study conducted in New Zealand by Niles (2016) entitled "Complexities of Assessment: Trying to get it right," focused on documenting children's learning using the learning story framework. It aimed at taking a closer look at teachers' understanding and enactment of assessment by examining how teachers assessed children's learning in early childhood settings and by exploring early childhood teachers' understandings of learning assessments. The study revealed that teachers experienced a complexity (difficulty) working as a team. It was difficult for teachers to value the perspectives of the learning community as they worked towards documenting children's learning using the learning story framework. It was noted that despite the teachers regularly discussing children's individual needs, documentation of their discussions was not being done. They attributed the failure to document the children's individual leaning needs to their inability to balance between contrasting views of assessment and negotiating what needed to be documented. They found it hard to pinpoint what exactly needed to be documented. As a result, the teachers at times questioned the authenticity of documented assessments. One may therefore speculate that if teachers were not so keen to document assessments, then the assessment results did not serve any purpose and that perhaps assessment was being conducted just for formality purposes. The next sub-heading is a discussion on standardised tests and standardised assessment tools in ECE.

2.2.6 Standardised tests and standardised assessment tools in ECE

A standardised test is defined as "a test that is administered and scored in a methodical manner to produce a score that can be compared to a predefined population (norm-referenced) or some predetermined criterion (criterion-referenced)" (Frans., Post., Oenema-Mostert and Minnaert, 2020). Basically, standardised assessment tools are used to gather relevant information to make decisions on various issues related to child

development (Curriculum Development Centre, 2014 b). The understanding is that standardised tests use standardised assessment tools to conduct standardised assessments in ECE.

While some people may think that standardised tests are not necessary in ECE Centres, Brown and Hattie (2012) suggest that standardised tests are needed in ECE because they provide evidence of reliability, standardisation, and validity of the information gathered and interpreted. However, people who use standardised tests are expected to be able to interpret the test results and communicate them in a meaningful way to parents (Wortham, 2005). This implies that they also need to know why they are using a particular assessment tool and how to use it when conducting assessment tests. Otherwise, it is clear from the above sentiments that if teachers are going to use standardised assessment tests, they should be able to interpret the results. Failure to do so would compromise the assessment results.

There are several assessment tools available for use in ECE among them, the *Boehm Test of Basic Concepts (*Third Edition) a tool that can be used in kindergarten up to grade two (Boehm, 2000). It might be administered by the teacher to young children to determine cognitive competencies of their need for instruction in basic concepts or to assess successful learning of concepts previously taught. Another tool is the *Child Observation Record (COR)* useful when assessing children aged two and a half to six years (High/Scope Educational Research Foundation, 2003). It can be used in preschools in six developmental domains to determine how children are developing. In addition, the High/Scope model is another essential assessment tool valid for groups of children from several different cultural backgrounds based on the premise that it has been easily adapted worldwide (Hohmann and Weikart, 2002). Whilst all the above-mentioned tools can be used in ECE Centres, what was not clear was whether teachers in ECE Centres in Lusaka were using them.

There is yet another tool that can be used for assessment called *Panga Muntu Test (PMT)*, appropriate for children between six and fourteen years (Serpell, 1974) and

(Audiometer, Werth, Kathuria and Serpell, 2007). The *Panga Muntu* which literally means "make a person" is used to measure non-verbal cognitive abilities. It can be administered by teachers or educational professionals. The Test has since been refined and applied in a variety of settings administered to ages between four and twelve as articulated in recent literature where it proved to be a relevant assessment tool (Serpell and Simatende (2016). Although this tool has been used for assessment in different settings in Lusaka, little information was available to show whether it has been used by teachers in ECE Centres in Lusaka to assess the children's cognitive abilities.

Furthermore, there is an assessment tool called Zambian Child Assessment Tool (*ZamCAT Instrument*) used to assess pre-school children (Fink, Matafwali, Moucheraud and Zuilkowski, 2012). The ZamCAT features, tasks and tests that measure seven fundamental domains of child development namely, fine motor skills, language (expressive and receptive), non-verbal reasoning, information processing, executive functioning (set of mental skills that help you get things done), socio-emotional development and task orientation. The tool captures various domain areas, it offers potential for the assessment of school readiness as well as identification of children at potential risk for developmental problems (Matafwali and Serpell, 2014).

A person administering the tool must be trained on how to use it in order to conduct the assessment correctly. This means that even if the tool is made available, if the teachers are not trained on how to use it, chances are that teachers may shun using it and yet this is one of the tools that uses familiar Zambian objects in most tasks that children are engaged in during assessment in a Zambian setting. Meanwhile, ZamCAT has been successfully used in research projects to generate useful data on children's development and learning, such as the UNICEF research project led by Matafwali, (UNICEF, 2014) on the evaluation of the Interactive radio instruction (IRI) pilot programme in early childhood education in the Eastern Province of Zambia. Since it was not clear whether teachers use the tool in ECE Centres in Lusaka, it was of interest for the researcher to establish the status quo in ECE Centres.

Another assessment tool that can be used in ECE is *The Child Development Assessment Tool,* targeting children aged between zero and six years (Ettling, Msango, Matafwali, Mandyata, Mundaala-Simfukwe, Mweembe, et al., 2006) and *The Child Development Assessment Tool for Zambia (CDATZ)* (Curriculum Development Centre, 2014 a). The revised assessment tool (CDATZ) is administered to assess interpersonal skills; Fine-motor skills; gross motor development; receptive language; expressive language development and self-Help skills. It can be administered by teachers, parents/guardians and Centre managers. Having reproduced the second edition of the too, the Ministry of General Education in Zambia now recommends the use of the CDATZ in all ECE Centres for use in assessing child development (Curriculum Development Centre, 2014 a). However, it was not clear whether teachers were adhering to the recommendation and if at all the tool was readily available in ECE Centres seeing that it was recommended for teachers to use it for assessment. It is the contention of the researcher that failure to use the tool would be very retrogressive in view of the strides the Ministry of General of Education is making in improving the assessment of children in ECE Centres.

The *Ages and Stages Questionnaires (ASQ-3)* (Squires and Bricker, 2009) is another essential tool that can be used in ECE Centres. The tool is appropriate for children aged one month to five and a half years. The ASQ-3 is administered to assess developmental domains comprising communication, gross motor, fine motor, problem solving, and personal-social domains. It is primarily used to screen developmental delays, hence it has been used in research, as well. Minimal training is required to learn how to score. For instance, The ASQ-3 results in a score (out of 60) for each area (communication, gross motor, fine motor, problem solving and personal-social) and these are compared to cut-off points on the scoring sheet. Scores beneath the cut-off points indicate a need for further assessment; scores near the cut-off points call for discussion and monitoring; and scores above the cut-off suggest the child is on track developmentally.

As a country, Zambia had an opportunity to participate in a feasibility study where the ages and stages questionnaire was administered as a developmental screening tool in

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what was a cross-sectional study of South African and Zambian children aged two months to sixty months (five years). The sample was drawn from different settings (homes, clinics, ECE Centres). The results showed the applicability of the ASQ-3 to Zambia and South Africa signifying its relevance in determining developmental delays and possibilities of early interventional measures at an early stage in order to promote positive life trajectories (Van Heerden, Hsiao, Matafwali, Louw, Richter, 2017). Further, since the ASQ-3 assessment tool was culturally adaptive in that it met salient features such as cultural issues which affirm the psychometric properties and feasibility of using it in both Zambia and South Africa (Hsiao, Richter, Makusha, Matafwali, Heerden and Mabaso, 2016), it would be expected that ECE Centres would make use of the ASQ-3 for assessment in their respective ECE Centres. Nonetheless, it was not clear if this was the case. No wonder, the researcher in this current study sought to establish whether the teachers in ECE Centres were using the ASQ-3 for assessment in ECE Centres.

Although teachers may conduct standardised assessments such as developmental screening, teachers should be cognizant of the fact children below the age of eight years have rapid growth because this is "the period when young children's rates of physical, motor, and linguistic development outpace growth rates at all other stages" (Shepard, Kagan, and Wurtz, 1998:3). Similarly, Wortham (2005) assets that the evaluation of pre-school children under the age of six ought to be conducted with their developmental characteristics in mind without which assessment results would be compromised. Therefore, teachers are expected to consider the principles that guide assessment in ECE as they conduct assessments in ECE Centres because failure to do so would compromise the assessment results. The next discussion is on principles guiding assessment tools in ECE.

2.3 Principles guiding assessment in ECE

Principles guiding assessment in ECE describe the technical requirements that each assessment must meet and what should be considered to ensure that the assessment results are accurate and valuable (Shepard, Kagan and Wurtz,1998). Thus, teachers are

expected to be objective, non-judgmental and accurate when conducting assessments of children's development and learning (Mindes, 2003). Teachers are expected to adhere to the principles that guide assessment in ECE every time they conduct assessment in ECE for them to have assessment results that are reliable (Wortham, 2005; MESVTEE, 2013). By so doing, teachers will avoid being biased in their assessment. It can therefore be argued that being knowledgeable about principles that guide assessment in ECE is important because it enables teachers to conduct authentic assessment. Puckett and Black (2008), suggest that it is important that the evidence collected through various forms of assessment reflect each child's abilities. One way to achieve this is not just by being knowledgeable about the principles that guide assessment in ECE but by adhering to the principles that guide assessment in ECE.

In this regard, teachers are expected to be sensitive to the holistic needs of individual children and must ensure that they have an understanding why they are conducting an assessment (Lau, 2015; Pellegrino, 2016). Nonetheless, even if teachers understand why they are conducting an assessment, if they do not adhere to the principles that guide assessment in ECE, the assessment outcome might be compromised. Furthermore, Mindes (2003) suggests that teachers should apply their professional expertise to interpret children's evidence of learning and development. However, it may not be possible for teachers to accurately interpret children's evidence of learning and development if they lack the required knowledge about principles that guide assessment in ECE and if they fail to adhere to the principles that guide assessment in Early Childhood Assessment. Below are some examples of specific principles guiding assessment that should be adhered to when conducting assessment in ECE.

2.3.1 Collaboration between families and early childhood professionals

In order to conduct assessments that are authentic and worthwhile, one of the principles teachers should consider is collaboration. Research suggests that collaboration between families and early childhood professionals is inevitable because families are a valuable source of information with regards to their children (Baldwin, Adams and Kelly, 2009;

Gullo, 2005; Wortham, 2008). For example, the family's perspectives are particularly useful in providing information regarding a child's history, culture, disposition and abilities in different settings (Brink, 2002).

In addition, collaboration helps professionals to have an accurate image of a particular child (Brink, 2002; Wortham, 2008) and it creates a positive impact on children's overall learning and development (Beaty, 2002). Parents are also better placed to provide detailed information about children's behaviour and learning because they are the immediate agents of socialisation especially when you are dealing with very young children whose temperament and behaviour can best be described by the parents (Neisworth and Bagnato, 2004; Glazzard, Chadwick, Webster and Percival, 2010; Grisham-Brown, Hallam and Brookshire, 2006). However, it was not clear whether teachers were considering the aspect of collaboration in ECE Centres.

2.3.2 Incorporation of children's views when conducting assessment

Another principle guiding assessment in early childhood assessment suggests incorporating the children's views on their Learning when conducting assessment. Children find great value in the feedback they receive on their own learning through the assessment process because they get to know how they are progressing and performing (Glazzard, Chadwick, Webster and Percival, 2010). According to Seitz and Bartholomew (2008), the children's views on their learning should be heard. Children should be given the opportunity to actively contribute to assessments of their learning and receive feedback on their learning. This is what Sylva, Melhuish, Sammons, Siraj-Blatchford and Taggart (2010), refer to as shared sustained thinking, insinuating that learning should take an open-ended approach within an exploratory context kind of learning. Thus. they are of the view that it is more beneficial when two or more individuals work together in an intellectual way to solve a problem, clarify a concept, evaluate activities, or extend a narrative. This implies that, in certain tasks especially drawings, art and crafts, the teacher should not grade the work before listening to what the child has to say because when children describe, explain and justify their thinking to others in shared sustained

thinking, they develop meta-cognition and 'learn to learn' (Siraj-Blatchford, 2009). As such, assessment now should consider the views of children and subsequently explain to them why their work has been graded the way it has been graded. However, it was not known whether teachers were doing this in ECE Centres hence the need to find out.

2.3.3 Embracing children's cultural background and linguistic skills

A fundamental principle of assessment in ECE embraces children's cultural background and language because these often determine how, and upon what, children can be appropriately assessed (Gullo, 2005 and MESVTEE, 2013). No wonder Appl (2000), suggests that approaches used for assessing children need to be culturally sensitive and interesting, contending that assessment tools that are culturally, linguistically and developmentally appropriate, tend to make assessment authentic. Therefore, assessment becomes more meaningful if children are assessed on activities which they are familiar with, which form part of their daily routine (Baldwin, Adams and Kelly, 2009 and Gullo, 2005) of which some of the routines might be culturally oriented. Thus, when analysing and interpreting children's assessment data, consideration of children's cultural background is important because it enables the assessor to have an accurate picture of the children's abilities instead of making baseless conclusions.

2.3.4 Environment as an important factor in early childhood assessment

On principle, children should be assessed within the child's natural environment to incorporate the child's everyday learning experiences hence providing opportunities for feedback along the way (Hatch, 2010; Grisham-Brown, Hallam and Brookshire (2006). The argument is that a change of environment has the potential to affect how a child performs on a given task. In fact, Losardo and Notari-Syverson (2001) assert that children's abilities are best displayed in environments where the child is most comfortable and familiar with the environment. This implies that while certain assessments can be conducted in a school environment, depending on the age of the

child, certain assessments would best be conducted in an environment where the child can easily express himself or herself.

2.3.5 Consideration of culturally appropriate materials when conducting assessment

Losardo and Notari-Syverson (2001) suggest the use of culturally appropriate materials when assessing children. This can help to avoid misinterpretation of information by the children. However, teachers are prone to using foreign materials and assessment tools which are not culturally appropriate when assessing children in ECE Centres for reasons best known to themselves. For instance, certain visual aids found in some ECE Centres are of western origin. As such, using such materials for assessment may disadvantage the children because the child may score below par simply because of a material that a child could not recognize. It should, therefore, be noted that making assessment meaningful for children, involves using tools that are appropriate for them (Copple and Bredekamp, 2006). In other words, children should not struggle to use tools that are intended to enhance their development. Teachers are therefore, obliged to put certain measures in place to allow for the full range of children's competencies to be recorded (Bagnato, 2007).

2.3.6 Incorporation of multiple approaches in early childhood assessment

Assessment in early childhood should incorporate multiple approaches because a variety of approaches give early childhood professionals and families a comprehensive view of children's learning and development (Allen, 2007; Brown and Rolfe, 2005; Glazzard et al., 2010; Grisham-Brown, Hallam and Brookshire, 2006; Wortham, 2008). Further, Gullo (2005) asserts that children learn and demonstrate their learning in many ways and should therefore be observed using a variety of tools and approaches and in a variety of contexts. For example, Sattler (1998) asserts that children behave in different ways, in different contexts and on different occasions and days. As such, exploring multiple approaches when conducting assessment helps teachers to have a better understanding

of the child's capabilities and competencies. However, it was not clear whether teachers in ECE Centres were using various approaches to assess children.

2.3.7 Consideration of context and age in early childhood assessment

Teachers in ECE Centres are expected to take into consideration the aspect of context and age when conducting assessment because they have the potential to influence the child's capability (Gullo, 2005; Fleer, 2002). Children easily relate to a task that is age appropriate because they are likely to have the expected capacity to perform those tasks. Copple and Bredekamp (2006) suggest that assessments that consider age appropriateness and context across different situations and settings, are likely to be effective and yield positive results. However, even if children are of the same age, at no time should they be compared to their peers in whatever capacity as doing so demotivates them. Puckett and Black (2008) suggest that children should only be compared to their own developmental trajectory and not to be compared to the average behaviour for a given cohort. This is because children develop differently due to various factors. While one five year old child may be able to write his name without difficulties, another may not even be able to correctly hold the writing tool.

Furthermore, even though research has shown that being knowledgeable about principles that guide early childhood assessment and adherence to the suggested guidelines can result in authentic assessment practices in ECE (Shepard, Kagan and Wurtz, 1998; Wortham, 2005), on the contrary, McNair, Bhargava, Adams, Edgerton and Kypros, (2003:28) posit that "despite the fact that principles of and strategies for assessment are taught in most teacher education programmes…teachers do not demonstrate a clear understanding of how to use assessment to support the teaching and learning process in the classroom." Therefore, it was not known whether teachers were knowledgeable and adhering to the principles that guide assessment in ECE.

2.4. Factors influencing assessment practices in ECE

There are several factors that influence assessment practices in ECE which this section seeks to explore. It is essential for teachers to be cognizant of the factors that influence assessment practices in ECE. It is hoped that when teachers are aware of these factors, they may assess children within the context of our societal, educational aspirations, values, and beliefs to promote a universal opportunity for the children's success, regardless of their social or economic background (Stiggins, 2017). On the other hand, even if teachers may be aware of the factors that influence early childhood education assessment, there is no guarantee that teachers would conduct authentic assessment in ECE. However, it is worth exemplifying and discussing the factors that influence assessment practices in ECE by looking at some studies that have been conducted.

A study conducted in the United States entitled "Building Quality Early Childhood Assessment: What Really matter" by Bailey (2017), explored the strategies teachers used, the knowledge and skills they possessed in relation to the implementation of the curriculum and authentic assessment. The study also explored how teacher rated themselves with regards to how they conducted authentic assessment. The study revealed that although early educators rated their knowledge of curriculum and authentic assessment as excellent, the study revealed that early childhood assessment was implemented inconsistently and often incorrectly. Therefore, factors such as time and competing priorities were reportedly the greatest barriers to implementing authentic assessment with fidelity. From the look of things, some impediments indirectly influence assessment practices in ECE. As a result, the implication is that teachers are likely to adopt other assessment measures to curb the situation which may eventually compromise the assessment outcome.

Another study was conducted in England, entitled "Playing the Assessment Game in Early Childhood Education: Mediating professional habitus with the conditions of the field" Basford (2016). This study revealed that the terms and conditions on assessment in ECE settings influenced the teachers' assessment practices. This could be attributed to how

teachers contextualised the culture and practice of their workplace in line with policy and assessment practices. The study revealed that ECE policies about assessment and documentation for English ECE settings seemed to contradict each other. The contradictory messages to practitioners affected the way assessment was conducted. It was observed that the teachers had limited opportunities to utilise their skills and knowledge (professionalism) in ECE which they had acquired through their academic studies. This situation is exceptional. As opposed to typical situations where teachers exhibit limited skills and knowledge in early childhood assessment, teachers in this study were confident of their skills and knowledge and yet they were denied sufficient opportunities to utilise their professionalism. This may imply that a workplace culture, prescribed assessment practices in a workplace and the assessment policy in ECE have the potential to influence how assessment is conducted in ECE Centres.

Furthermore, lack of in-service professional development has been cited as one of the factors influencing assessment practices in ECE. Incidentally, some studies portray a blurred picture of the teachers' abilities to effectively conduct assessment without in-service professional development as was the case in studies conducted in Alberta and Washington (McDonald, 2002; Hargreaves, Earl and Schmidt, 2002; Mabry, Poole, Redmond and Schultz, 2003). In these studies, it was revealed that teachers who did not participate in the in-service professional development lacked assessment expertise to effectively conduct authentic assessment. Such a scenario was a source of concern to the researcher who was left wondering whether the status quo was the same in ECE Centres in Lusaka.

In a related study by Taylor, Pearson, Peterson and Rodriguez (2005), which sought to investigate the influence of professional development on assessment practices in elementary schools across the United States, the study revealed that in-service training helped teachers to improve the way they conducted assessment. Some of the factors that influenced effective assessment practices were the school environment and teacher' existing beliefs on assessment (what they prioritise when assessing children).

Notably, the study suggests that although the impact of professional development on classroom practice may not be felt with immediate effect, the exercise is said to have the potential to make a huge difference on the teachers' existing beliefs and their assessment practices. What was not known is whether professional development programmes were being conducted in ECE Centres in Lusaka. In case these programmes were being conducted, the researcher was interested to know how teachers benefited from them.

Apart from professional development programmes influencing assessment practices in ECE, Smith (1996) suggests that pre-service training is also an important factor in determining influences how teachers conduct assessment in ECE. Reference is particularly made to the training ECE teachers receive before they graduate with a teaching qualification in ECE. The argument is that the kind of training teachers receive during pre-service teacher training influences the teachers' assessment practices in ECE. For example, Spidell-Rusher, McGrevin, and Lambiotte (1992) and Katz (1999 b) suggest that pre-service teachers who learn a more teacher-directed approach to curriculum and instruction are likely to adhere to the same approach when conducting assessment.

Perhaps, it justifies why teachers should have regular in-service training once they are employed as teachers because the possibility of a teacher sticking to what they learned whilst in college or university is very high. Perhaps, even when there is a change of curriculum, it would be prudent for government officials responsible of cuuriculum development to orient teachers on the changes so that they get acquainted with the new approaches prescribed in the curriculum. Otherwise, teachers might continue conducting assessment according to how they were trained and according to what is convenient to them.

2.5 Challenges in early childhood assessment

In order to understand what challenges teachers could experience in early childhood assessment, a review of related studies has been done to provide insight. According to

Guddemi and Case (2004), assessment involving children in ECE are challenging because they are time consuming in that they need to be administered in a one-on-one individualistic manner within short segments because of the short concentration span of young children.

A study by DeLuca (2018) which looked at assessment in play-based learning, revealed that although teachers employed several assessment strategies such as direct observation and withdrawal methods of testing (in which teachers removed learners from play to engage them in assessment activities), the assessment did not yield positive results. The children found the exercise disturbing. When children feel disturbed, it becomes difficult to make them cooperate. In the same vein, while teachers used video recordings to monitor children's learning and displayed products of play via documentation walls and portfolios, these assessment strategies were reportedly not effective. The study revealed that teachers faced challenges combining and analysing large amounts of data collected from these applications.

While one may think generating large amounts of data would provide adequate information on children's development and academic learning, it seems this is not always the case if teachers are not able to interpret the tests within the shortest possible time. In addition, teachers complained of the assessments being time consuming. Given that teachers faced these challenges, it is most likely that the assessment results were compromised. Meanwhile, it was not clear whether teachers in ECE Centres in Lusaka experienced the same challenges hence the need to find out in this current study.

A study conducted in South Korean ECE settings by Nah and Kwak (2011) revealed that teachers experienced assessment challenges. Teachers failed to implement assessment procedures in the curriculum in a systematic manner which resulted in a wide variation of assessment practices by teachers. Furthermore, the forms used by teachers for documentation across environments varied whilst superficial goals and limited information regarding children were observed. In addition, some of the challenges noted among others were that observations of individual children were not systematically

planned, and children were not observed with multiple participants in diverse contexts. Furthermore, the results of observations in many cases were often not integrated into summary evaluation but instead teachers used them to inform parents rather than to guide learning and teaching. Arguably, when such inconsistences are observed in early childhood assessment, there is a possibility that the assessment outcome would be compromised, hence defeating the purpose of assessment in ECE.

In a study conducted in Japan by Kitano (2011), the findings revealed that teachers experienced challenges described as commercialism and high family expectations. The study revealed that with the passage of time, Early Childhood Care and Education (ECCE) institutions in Japan developed some form of commercialisation which were believed to have compromised the way assessment was conducted. Most parents who had children in ECCE wanted their children to transition from ECCE to primary school even if their children were reportedly not developmentally and academically ready to do so. As a result, most teachers succumbed to the pressure mounted by parents. Meanwhile, in trying to meet the parent's demands, the assessment approaches became more inclined to satisfying the parents expectations rather than adhering to what was prescribed in the curriculum. Consequently, instead of assessment fostering child development and academic learning in ECCE, children were disadvantaged. One wonders whether such things happen in ECE Centres in Lusaka.

In a study conducted in South Korea by Nah (2014), the findings revealed that ECE teachers experienced challenges with regards to different ECE perspectives on children and their learning. There seemed to be a contradiction between two different perspectives in most South Korean ECE institutions. For example, one perspective placed emphasis on academic achievement in ECE whilst the other one promoted the constructivist approach which encouraged teachers to simply act as guides to the children's learning by facilitating activities and learning opportunities without emphasizing on academic achievement. This caused teachers to be in a dilemma as they found it difficult to implement assessment practices that were acceptable and in the best

interest of children. As a result, such a predicament may cause teachers to use their own preferred assessment strategies at the expense of children's development and academic learning.

Basford and Bath (2014) observed similar challenges among early childhood teachers in English settings. The ECE polices about assessment and documentation for English ECE settings contradicted each other. The contradictory messages to practitioners affected the way assessment was conducted. It was as though practitioners were caught up in playing an assessment game. Consequently, it proved to be a huge challenge to carry out authentic assessments using numerous assessment approaches and a totally different cultural orientation. In addition, external pressure from parents and other stake holders affected how assessment was conducted.

Furthermore, a study conducted in Ethiopia on practices and challenges of children's learning assessment in pre-school Centres by Melaku and Tadesse (2019) showed that educators acknowledged the importance of assessment for supporting children's learning and development. However, educators held diverse perspectives and varying assessment practices of which it was reported that they experienced assessment challenges. These challenges ranged from biased assessment practices such as unhealthy comparison of children, labelling of children as failures by emphasizing on norm, focusing on few domains of children's development when conducting assessment to using the assessment results for promotion instead of the results to inform teaching and learning.

Consequently, the study seems to suggest a possible wrong interpretation of assessment results. Given the circumstances described above, the educators did not adhere to principles that guide assessment in ECE, and it may not be surprising for anyone to doubt the authenticity of the assessment outcome. Furthermore, poor parent communication and feedback provision were also identified as a common problem in most pre-school Centres while "lack of professional staff, lack of teaching and learning materials, lack of ECCE syllabus, large class size and, lack of knowledge and skill" (Melaku and Tadesse, 2019:68) were also cited as major challenges in pre-school Centres. Such challenges are

a serious concern because they are a threat to authentic assessment in ECE and if left unattended to, they have the potential to impact the children negatively.

2.6 Current studies on ECE and assessment in Zambia

Although the issue of assessment practices by teachers in ECE is one which has been well researched in other countries, not much has been researched on the same subject matter in Zambia and yet assessment practices in ECE Centres have the potential to affect child development and academic learning. Although some studies have been conducted before on assessment, most of them that have been conducted in Zambia have not directly focused on assessment practices in ECE as they have often focused on ECE in general. Others have focused on the prospects of validating and standardising assessment tools in Zambia (Hsiao, Richter, Makusha, Matafwali, Heerden, and Mabaso, 2016) and (Fink, Matafwali., Moucheraud and Zuilkowski, 2012) respectively. Other studies have focused on administering child assessments using standardised tools as a way of evaluating children's development to determine the impact of ECE on children who attend ECE Centres whilst some studies on ECE have focused on distinguishing the developmental patterns of children who attend ECE and those who do not by using standardised assessment tools (UNICEF, 2014).

To elaborate further, one such example is a study that was conducted in Zambia on the development of an assessment tool called Zambian Child Assessment Test (ZamCAT) assessement Instrument (Fink, Matafwali, Moucheraud and Zuilkowski, 2012). The ZamCAT features tasks and tests to measure seven fundamental domains of child development namely, fine motor skills, language (expressive and receptive), non-verbal reasoning, information processing, executive functioning (set of mental skills that help you get things done), socio-emotional development and task orientation. So far, this tool has been valuable in research projects aimed at informing different organisations and government on ECE matters. However, it is not clear whether ECE Centres use this tool to assess child development and academic learning. Nonetheless, the ZamCAT was successfully used to generate useful data in a UNICEF research project on the evaluation

of the Interactive Radio Instruction (IRI) pilot programme in early childhood education in the Eastern province of Zambia led by Matafwali, see (UNICEF, 2014). Like is the case in most studies, the use of ZamCAT brought out the much-needed information in that study.

More recently, another feasibility study focusing on ECE was conducted to assess children's development in various domains using the Ages and Stages Questionnaire (ASQ-3) Assessment tool to ascertain its applicability to a Zambian setting (Hsiao, Richter, Makusha, Matafwali, Heerden and Mabaso, 2016). The ASQ-3 was administered as a developmental screening tool in what could be a cross-sectional study for South African and Zambian children aged two months to sixty months (five years). The results showed the applicability of the ASQ-3 to both countries and southern Africa as a whole. This signified its relevance in determining developmental delays and possibilities of using it for early interventional measures at an early stage in order to promote positive life trajectories (Van Heerden, Hsiao, Matafwali, Louw, Richter, 2017). While these studies that have been cited relate to assessment, the focus was not on teachers' assessment practices in ECE Centres. This suggests that although assessment frameworks and tools could be available in Zambia, there seems to be no studies that specifically address the issue of assessment practices by teachers ECE Centres in Zambia despite quality of ECE being dependent on assessment practices that provide reliable child development assessment results.

Furthermore, Matafwali and Serpell, (2014) affirm that there seems to be little systematic documentation of culturally appropriate child assessment instruments in Africa. Consequently, this vacuum may potentially affect how assessment is conducted in ECE Centres on the premise that child assessment tests in the African region somehow remain fragmented (Serpell, 1999). As a result, there seems to be a tendency of administering assessment tools that are culturally inappropriate which have the potential to lead to serious misinterpretation of the calibre of African children. Meanwhile, it is imperative to conduct assessments that are objective, non-judgmental

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and accurate, hence giving a true reflection of children's development and learning (Mindes, 2003). However, this kind of predicament has somehow led to a review of literature on cross-cultural issues in child assessment that have led to the identification of a variety of approaches with a view to testing, designing and adopting appropriate child assessment tools.

For instance, in Zambia, two child assessment instruments have so far been developed from a Zambian perspective with substantiated empirical evidence documenting their ecocultural and psychometric validity: The *Panga Munthu Test* and the Zambia Child Assessment Tool (ZamCAT) (Matafwali and Serpell, 2014). Nonetheless, despite such a milestone, it remains unclear whether such tools are used and to what extent they are being utilised in Zambia and, in ECE Centres. If research on assessment practices in ECE Centres is not conducted, evidence on what is currently obtaining with regards to assessment of children in ECE Centres might continue to be scarce, hence the need to conduct this current study. Further, the assessment practices by teachers might remain unknown and a result the practical mechanisms that promote appropriate assessment practices in ECE may not be recognized and implemented for enhancement of child development and academic learning.

Nonetheless, there seems to be some strides being made in the area of ECE assessment tools although much more can be done. For instance, in the recent past, Zuilkowski, McCoy, Serpell, Matafwali, and Fink (2016), expounded the Dimensionality and the Development of Cognitive Assessments for Children in Sub-Saharan Africa. They exemplified how the exposure to two-dimensional materials such as picture books and photographs during early childhood by most Western children could be used to capture cognitive development in African contexts. However, they note that the same picture book might not be appropriate to use it in the same manner for most rural African children who have little or no exposure to such materials. As such, they argue that assessments using two-dimensional stimuli, such as line drawings or patterns, may be inappropriate for capturing cognitive development in settings where such formats are

unfamiliar to young children. Tentatively, they expounded a modified assessment of non-verbal reasoning designed to be contextually appropriate for children in rural Africa known as "the Object-based Pattern Reasoning Assessment" (OPRA). The tool was created during a national study of preschool child development in Zambia, and it uses local materials such as beans and stones. The advantage of this assessment tool is that it requires little training to administer, and it is not bias towards two-dimensional materials such as picture books and photographs, instead it uses materials that are familiar to young children living in developing countries. The development of such an assessment tool is a good addition to the Panga *Munthu* Test and the Zambia Child Assessment Tool (ZamCAT) (Matafwali and Serpell, 2014) which encompass the cultural and psychometric perspective.

The onus is therefore on all stake holders to make use of Zambian assessment tools which are likely to give realistic assessment results. It is evident that the tools may not only inform instructional planning but may help teachers to understand the developmental pattern of individual children from a broader perspective by using a variety of assessment tools. More significantly, the assessment tools are said to be able to help; "detect a population of children that are at risk for disability and children with special educational needs, in the diagnosis of conditions affecting optimal development, individualized intervention programme planning, monitoring of developmental progress and evaluation of programmes" (Matafwali and Serpell, 2014:92).

It is evident from the discussion that although several studies have been conducted on child assessment in Zambia, not much was known about assessment practices by teachers in ECE. It was for this reason that this current study was conducted to provide insight on whether assessment in ECE Centres in Lusaka was being implemented according to what has been prescribed in the revised curriculum. Given that if the situation on assessment practices in ECE Centres remained unknown, there would be a risk that teachers might be conducting assessments that have no benefit to children's development and academic learning hence compromising the assessment outcome and ultimately defeating the purpose of assessment in ECE Centres.

2.7 Knowledge gap for this study

While many studies have been conducted on assessment practices in ECE globally, not much research has been conducted in Zambia on the subject matter. Nonetheless, it is evident from reviewed literature that, assessment practices used by teachers in ECE Centres greatly influence child development and academic learning. In addition, assessment knowledge and skill are important for effective assessment in ECE considering that knowledge about principles that guide assessment in ECE contribute to successful implementation of formative and summative assessment by teachers in ECE Centres. There is also evidence showing that challenges experienced by teachers in early childhood assessment have the potential to compromise assessment results in ECE. However, since little has been revealed on assessment practices in ECE in Zambia, this current study sought to fill the gap.

2.8 Summary of chapter two

The literature review has shown the primary purpose of assessment in ECE. It has established that the assessment of young children is holistic and that assessment practices tend to influence teaching and learning. However, there is a difference between assessment of learning and assessment for learning. The differences in their characteristics determine the assessment strategies teachers employ to track and measure the progress of children's development and academic learning in ECE. In addition, although principles that guide assessment in early childhood assessment play a significant role in helping teachers conduct assessments that are authentic in ECE, there is evidence suggesting that several other factors influence assessment practices by teachers in ECE Centres. The identified factors have the potential to influence assessment results either positively or negatively. Furthermore, challenges experienced by teachers in early childhood assessment are a hindrance to authentic assessment in ECE Centres, and if corrective measures are not put in place, assessment in ECE Centres will not serve its purpose.

CHAPTER THREE: METHODOLOGY

3.1 Overview

This chapter describes the methodology that was used in collecting data and how the data was analysed. It begins with a description of the research paradigm and the design used in the study. It explains the criteria used to select a concurrent triangulation design and the rationale for using the design. The target population and the sampling procedure are described in detail. The sample size has also been described in detail, followed by the research instruments which are outlined, accompanied by an explanation on how the instruments were administered. After that, aspects of reliability, validity and trustworthiness are discussed, including how a pilot study was conducted. A description of data collection procedures is exemplified whilst the methods of data analysis and ethical considerations are also elaborated. The chapter ends with a summary.

3.2 Research paradigm

The term "paradigm" in social research is defined as "a way of thinking about and making sense of the complexities of the real world" (Patton 2002:69). It also refers to a basic set of beliefs or worldview that guides research action or an investigation (Guba and Lincoln, 1994). This world view "is the perspective, or thinking, or school of thought, or set of shared beliefs, that informs the meaning or interpretation of research data" (Kivunja and Kuyini, 2017:27). Therefore, a paradigm is a conceptual lens through which the researcher examines the methodological facets of their research project to determine the research methods used and how the data will be analysed. Mertens (2010) suggests that a paradigm comprise four essential elements composed of certain philosophical assumptions about the nature of ethics, reality, knowledge and systematic inquiry, namely the axiology, ontology, epistemology and methodology. Furthermore, some scholars have adopted and philosophically used as a basis for their work, paradigms such as, post-positivism, social constructivism and

pragmatism (Creswell, 2009; Creswell, 2014; Morgan, 2007; Tashakkori and Teddlie, 2003; Guba and Lincoln, 2005). Notably, the pragmatic paradigm serves as the philosophical basis for mixed methods designs (Mertens, 2010). Therefore, this study relied on pragmatism as its paradigm.

Pragmatists believe that reality is not static because it changes at every turn of events. Therefore, human actions can never be separated from past experiences and beliefs that have originated from those experiences (Kaushik and Walsh, 2019). Arguably, the assessment practices used by teachers in ECE Centres in the past, cannot be separated from the teachers' present assessment practices. This may imply that, while teachers are expected to use new assessment practices according to what is prescribed in the new revised curriculum, there was a possibility of teachers implementing old assessment practices because of their experience and beliefs.

In addition, pragmatism is outcome-oriented and interested in determining the meaning of things (Johnson and Onwuegbuzie, 2006). Thus, the study sought to establish the outcome of the assessment practices used by teachers in ECE Centres and the implication of these outcomes on children's development and academic learning. Using this paradigm, the researcher was confident that assessment practices by teachers in ECE Centres would be revealed because the teachers' actions (practices) cannot be separated from their past assessment experiences and from the beliefs that have originated from their assessment practices over the years. It was hoped that the outcome of teachers' assessment practices in ECE Centres would be established and the implications on children's development and academic learning determined to inform subsequent teaching and learning.

3.3 Research design

According to Hofstee (2015), a researcher is expected to name and discuss the overall approach used in the study, explain precisely how the design was adapted and applied, and explain why the techniques were used. To start with, Orodho (2003) defines a

research design as the scheme, outline or plan that is used to guarantee answers to research questions. This study used mixed methods to investigate assessment practices by teachers in ECE Centres. Mixed methods research is "research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry" Tashakkori and Creswell (2007: 4). Furthermore, "Mixed methods research is the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study or set of related studies" (Johnson, Onwuegbuzie and Turner, 2007:120). Below is a detailed explanation of the criteria used in selecting a specific type of mixed methods design called "Concurrent Triangulation design" as the most appropriate to guide this current study, among other types.

3.3.1 Criteria used to select a concurrent triangulation design

Creswell, Plano Clark, Gutmann and Hanson (2003), categorised mixed methods research designs into six distinct typologies, namely, sequential explanatory, sequential exploratory, sequential transformative; concurrent triangulation, concurrent nested and concurrent transformative. A researcher who intends to use any of these designs is expected to examine all the six typologies by noting specific elements that distinguish them. In order to achieve this, Creswell, Plano Clark, Gutmann and Hanson (2003) proposed a four-step approach that can be used to select a specific mixed methods design to employ in a particular study. The process demands that a researcher uses four fundamental criteria: *implementation, priority, integration,* and *theoretical perspective.*

The first step is *implementation*, which requires consideration of the order of data collection (sequential or concurrent) (Creswell et al., 2003; Morgan, 1998). The fundamental aspect regarding implementation focuses on the order in which data is collected. As such, a researcher is expected to determine in advance whether data will be collected sequentially or concurrently and then determine which among the typologies provides what is ideal for their study. For instance, in this study, the plan was

to collect data concurrently. As such, the concurrent triangulation design stood out as the ideal design for this study. This was because the concurrent triangulation design enabled the researcher to converge quantitative and qualitative data, which provided a comprehensive analysis of the research problem.

Another criterion is *priority*. This aspect focuses on what needs to be done to determine which data will be prioritised in the study, whether quantitative or qualitative (Morgan, 1998). The onus is on the researcher to check the data that is intended to be prioritised in their study, whether quantitative, qualitative or both. For example, in Concurrent triangulation studies, either method can prioritise the other or both can be on equal footing. In this study, qualitative data had priority over quantitative data.

Furthermore, under *integration,* what is critical is consideration of how to integrate and analyse the data, bearing in mind that in mixed methods studies, data analysis and integration may occur by analysing the data separately; by transforming them; or by connecting what has been analysed in some way (Onwuegbuzie and Teddlie, 2003; Tashakkori and Teddlie, 1998). Therefore, researchers are expected to critically examine how they intend to analyse and integrate data in their respective studies before choosing a specific mixed-method design. Therefore, the integration in this study was concurrently done, and a design that met this expectation was the concurrent triangulation design. Hence it was the most preferred in this current study.

Finally, under *theoretical perspective*, the researcher has an option whether to use a theoretical framework in their study or not (Creswell et al., 2003). A theoretical framework was used in this study because it was inevitable to do so.

Therefore, after scrutinising all the six different typologies the best option in this study was the concurrent triangulation design. Below is an example of a concurrent triangulation design.

Results compared, integrated & interpreted
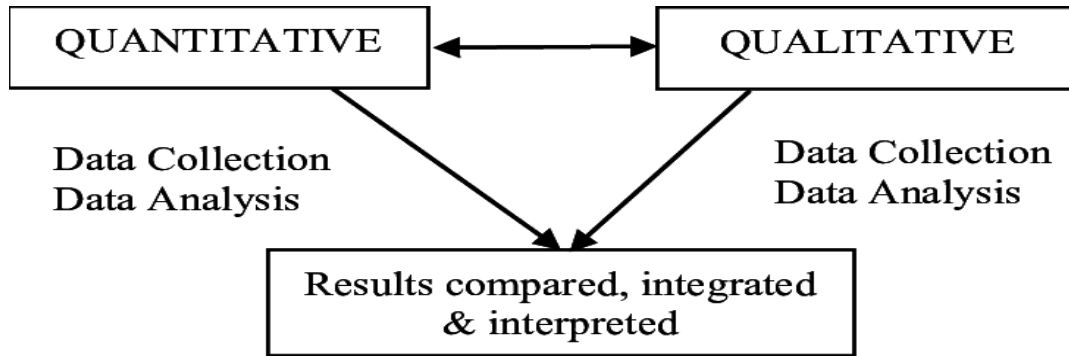
Figure 3.1: **Concurrent triangulation design**

Source: Adapted from Creswell, Plano Clark, Gutmann & Hanson (2003).

3.3.2. Rationale for using concurrent triangulation mixed methods design

The concurrent triangulation mixed methods design was appropriate for this study because the collection of data was done concurrently although the analysis for each set of data was carried out separately. However, results were combined and interpreted. The combination of data provided a better understanding of the assessment practices used by teachers in ECE Centres. Further, Sami (2016) believes that it makes intuitive sense to gather information from different sources, utilising different methods that work together as an efficient design. Therefore, it was hoped that efficiency would be attained using this design. This is because the design allows identification of the convergence and divergence of qualitative and quantitative data hence contributing to results that mutually complement each other (Santos, Erdmann, Meirelles, Lanzoni, Cunha and Ross, 2017). This meant that the concurrent triangulation design adequately exemplified the assessment practices used by teachers in ECE Centres

3.4 Target population

According to Matula, Kyalo, Mulwa and Gichuhi (2018: 86), a target population "refers to the entire group of individuals or objects that the researcher has chosen to study." The target population in this study comprised head teachers and teachers, teaching in

both public and private ECE Centres. Parents with children enrolled at the selected ECE Centres also formed the target population. The researcher targeted this population because it formed the accessible population that comprised elements and subjects that served the interests of the study. It also enabled the researcher to obtain relevant data that answered the research questions realistically. This was in line with what Alvi (2016: 10) has noted that the target population should encompass "all the members who meet the particular criterion specified for a research investigation." Details of the criteria used to arrive at the sample is explained in the sampling procedure below.

3.5 Sampling procedure

The researcher in this study did not arbitrarily decide on the sample size; a systematic sampling frame was formulated when selecting the subjects who were included in the sample. This was in line with Mugenda and Mugenda (2003), who suggest that in order to select a representative sample, a researcher is expected to have a sampling frame that consists of a list, directory or index of cases from which a sample can be selected which in turn forms the units of observation in the study. Examples of sampling frames include: "a national census list, lists of professionals in a particular field, students' registers, lists of car owners from the Register of Motor Vehicles, lists of approved plans from the city commission, telephone and post office directories" (Mugenda and Mugenda 2003:44). Thus, details of the sampling procedure in this study have been expounded to show precisely why the study site was selected, how the ECE Centres were selected and to explain how every participant was selected. Further, an explanation has been given to exemplify how the selection of the research site for observations and documentary analysis were selected. Both probability and non-probability techniques were employed when determining the selection of research participants.

3.5.1 Selection of research site

Lusaka district as the study site was preferred because literature showed that there were many children accessing ECE in Lusaka province, as evidenced in the statistics given by

the Educational Statistical Bulletin of 2016 (Ministry of Education, 2016). The report shows that the number of grade 1 entrants with pre-school experience in 2016 stood at 49,983 (33.7%) out of a total number of 148,201 entrants. The figure shows that it is relatively high compared to other provinces like Muchinga province with 4,835 (3.2%) and North-western province with 4,466 (3%) respectively (Ministry of General Education, 2016). Given the above statistics, it was hoped that Lusaka province and Lusaka District would provide the required number of teachers that use the revised ECE curriculum and that the respondents would be able to answer the research questions.

A non-probability purposive sampling technique was employed when selecting Lusaka as a research site. In non-probability sampling, "the researcher uses personal judgment to select subjects that are considered to be representative of the population based on research goals" (Matula et al., 2018:96). Maximum variation sampling was used to select Lusaka district as a research site. According to Borg et al (1997) cited in Mugenda and Mugenda (2003:51), "Maximum variation sampling is a method of sampling where effort is made to get a sample containing very varied cases." The use of maximum variation sampling method enabled the researcher to select cases that maximized the diversity relevant to the research questions. The idea of selecting cases from a broader spectrum in this study, helped the researcher to look at diverse assessment practices by teachers from both the public and private ECE Centres, hence achieving a greater understanding of their assessment practices. Further, the use of maximum variation sampling ensured that the variation relating to all participants and the ECE program in general were addressed and well understood.

3.5.2 Selection of ECE Centres

A non-probability sampling technique called Total population sampling was used to sample ECE Centres. Total population sampling is a type of non-probability sampling technique where the researcher chooses to examine the entire population that have characteristics of interest such as a specific set of skills or experience in the research being conducted (Ilker, Sulaiman and Rukayya, 2016). Key characteristics were

considered in the selection process. Thus, the researcher particularly selected ECE Centres that, among others, had adopted the use of the revised ECE curriculum for planning; teaching and evaluation of children's development and learning; had been in operation for more than a year; and had trained ECE teachers. The first to be selected were public ECE Centres, described as institutions annexed to an existing government primary school managed by government through the Ministry of General Education providing a range of educational services, care and play activities for the enhancement of child development for children between three years and six years old (Curriculum Development Centre, 2014 b). The public ECE Centres were selected by obtaining a list of all public ECE Centres from the office of District Education Board Secretary in Lusaka. The list consisted of eighteen (18) ECE Centres which became the sampling frame for public ECE Centres. The public ECE Centres are housed at selected public primary schools in Lusaka district.

Private ECE Centres were also sampled because they had more experience in ECE service provision compared to public ECE Centres, thus creating a balance that could provide more insight on the assessment practices by teachers' in ECE in Lusaka. Private ECE Centres can be described as institutions managed by an independent person or a private organisation providing a range of educational services, care and play activities for the enhancement of child development for children between three years and six years old (Curriculum Development Centre, 2014 b). Thus, private ECE Centres were selected by obtaining a list of private ECE Centres that specifically use the revised ECE curriculum for planning, teaching and evaluation of children's development and learning from the Private Schools Colleges Association (PRISCA) in Lusaka. The list comprised forty (40) ECE Centres and this became the sampling frame. However, the researcher purposed to have only eighteen (18) ECE Centres equivalent to the total number of public ECE Centres so as to have an equal representation. Therefore, a systematic sampling technique was used to arrive at a total of eighteen private ECE Centres. According to Kothari and Gaurav (2019), systematic sampling is an act of selecting individual items from a group at a

random starting point and then later take additional items at a standard interval, called the sampling interval.

In order to arrive at the required sample of eighteen private ECE Centres, the forty ECE Centres were numbered randomly from one to forty. Thereafter, the researcher decided on the interval and starting point. The sampling interval was obtained by dividing the total population of forty private ECE Centres by the required sample of eighteen private ECE Centres. Thus, the sampling interval was 40 ÷ 18 = 2.2. This implied that every 2nd ECE Centre on the list was picked. The random start for the researcher was 3. Thereafter, every 2nd ECE Centre on the list was picked starting with ECE Centre number 3. This sampling method ensured that each private ECE Centre that was listed had an equal probability of inclusion in the sample. Ultimately, eighteen (18) private ECE Centres were selected and were added to the public ECE Centres, this resulted into a total number of thirty-six (36) ECE Centres.

3.5.3 Selection of teachers

The teachers were selected from eighteen public ECE Centres and eighteen private ECE Centres. All of them had to meet specific characteristics, among them, being trained in ECE and having a minimum of one year teaching experience in the use of the revised ECE curriculum for planning, teaching and evaluation of children's development and learning. A Total population sampling technique was used to sample teachers that met the required characteristics. This technique was the most appropriate because the selection of all teachers with the required characteristics helped the researcher to get deep insights into the teachers' assessment practices in ECE. Further, it enabled the researcher to have a substantial number of participants who could give substantial details of assessment practices by teachers in ECE minus leaving out anyone with important data as noted by IIker et al., (2016:3) who is of the view that Total population sampling is appropriate when you feel "that leaving out certain cases from your sampling would be as if you had an incomplete puzzle - with obvious pieces missing."

Therefore, there were a total number of twenty-seven (27) teachers from public ECE Centres who were initially given questionnaires to answer but only twenty-six (26) answered and returned the questionnaires. Similarly, there were a total of eighty (80) teachers at private ECE Centres who were initially given questionnaires to answer but only seventy-six (76) teachers answered and returned the questionnaires. Therefore, a total of one hundred and seven (107) questionnaires were given but only one hundred and two (102) (95.6%) questionnaires were received and analysed as shown in Table 3.1 below.

Table 3.1: *Status of questionnaire distribution and returns for teachers*

Participants	Given	Returned	Retention Rate
Public ECE Centre:	27	26	96.2%
Private ECE Centre:	80	76	95%
Total:	107	102	95.6%

Source: Fieldwork data

3.5.4 Selection of teachers for Focus Group Discussions (FGDs)

The teachers who participate in the Focus Group Discussions were selected using a non-probability sampling Technique called Homogeneous sampling. For example, in this study, the participants were specifically selected from ECE Centres where the researcher conducted classroom observations and documentary analysis. The participants who participated in FGDs were trained teachers in ECE and most of them had been using the revised ECE curriculum for more than a year. Patton (1990) notes that Focus Group Discussions are typically based on homogeneous groups because they involve conducting open-ended interviews with groups of five to eight people on specially targeted or focused issues. In this current study, five teachers from public ECE Centres

participated in FGDs whilst eight teachers from private ECE Centres participate in FGDs. The aim of the FGDs were to describe their assessment practices at ECE Centres, to describe the assessment tools and strategies they use to assess children's development and academic learning in ECE Centres and for them to explain challenges they often experienced in Childhood Assessment.

3.5.5 Selection of ECE Centres for observations and documentary analysis.

The researcher sampled ten ECE Centres, five public ECE Centres and five private ECE Centres. It was hoped that by sampling only ten ECE Centres within the limited stipulated period of data collection, the prospects of managing to carry out two to three days of observation sessions in ECE Centres could be more realistic and would generate sufficient data that could be informative enough to guarantee an in-depth understanding of assessment practices by teachers in ECE Centres. Therefore, simple random sampling was used to come up with the required number of ECE Centres. According to Matula *et al.* (2018: 93), simple random sampling is "a method that ensures that each element in the population will have an equal chance of being included in the sample." To achieve this, the researcher used a lottery method used in simple random sampling to sample the ECE Centres. Firstly, the names of all listed public ECE Centres were written on small pieces of paper, folded and placed in a vessel. The vessel was thoroughly shaken and then one paper was picked at a time and the name of the ECE Centre was recorded. This process was repeated until the five public ECE Centres were selected. Similarly, the same process was repeated to select five private ECE Centres. Finally, ten ECE Centres were selected, and this is where classroom observations and documentary analysis were conducted.

3.5.6 Selection of head teachers

Head teachers were selected using a non-probability technique called homogeneous sampling. Homogeneous sampling is a form of sampling which unlike Maximum Variation Sampling, "focuses on candidates who share similar traits or specific characteristics"

(Ilker et al., 2016:3). Therefore, head teachers were specifically sampled from the ten ECE Centres where classroom observations and documentary analysis were conducted. It was hoped that by virtue of being overall supervisors at their respective ECE Centres, they would provide more insight on assessment practices by teachers from an administrative point of view. In addition, as people responsible for the education of all pupils, management of staff, and implementation of education policies, head teachers were deemed to be better placed to shed more light on how teachers were using the revised ECE curriculum for planning, teaching and evaluation of children's development and learning. Furthermore, by specifically selecting head teachers from ECE Centres where the researcher conducted classroom observations and documentary analysis, the assumption was that it would enable the researcher to easily conceptualise and integrate the data collected from both the head teachers and the classroom observations and documentary analysis.

3.5.7 Selection of parents

The researcher used the Yamane formula (Yamane, 1967) to select parents who participated in the study. Yamane is a simplified formula used to calculate sample sizes for identification of optimal feasible sample size (Yamane, 1967). When the population is large enough, sample size may be obtained through the Yamane equation often used in many studies (Ikehi, Onu, Ifeanyieze, Paradang, Nwakpadolu, Ekenta and Nwankwo, 2019; Israel, 1992; Sarmah and Hazarika, 2012). The parents were sampled from ten ECE Centres where the researcher conducted classroom observations and documentary analysis and the population was known. By restricting the selection of parents to only ten ECE Centres, it enabled the researcher to compare the views of parents with what was documented through classroom observations and documentary analysis hence enabling the researcher to triangulate the data.

In addition, it enabled the researcher to have an in-depth understanding of the assessment practices by teachers from the parents' point of view as key stakeholders in child assessment. In order to calculate the total population of parents/guardians in

the ten ECE Centres (five public ECE Centres and five private ECE Centres), the researcher collected details of the parents/guardians from the registers with the aid of class teachers. The researcher had to verify that all the parents/guardians in the target population had children who were enrolled at the respective ECE Centres for a minimum period of one term and that only one parent/guardian per household participated in this study.

Based on these criteria, there were one hundred and forty-five (145) parents selected from five public ECE Centres and eighty (80) parents selected from five private ECE Centres. The total number of parents that formed the sampling frame was two hundred and twenty-five (225). This was the target population where the required sample for parents was drawn using the Yamene formula (Yamane, 1967). A confidence level of 95% and 5% sampling error was considered. The calculation formula of Yamane (1967) is presented as follows.

Where :

n= sample size required

N = number of people in the population

e = allowable error (%)

$$n = \frac{N}{1 + N * (e)^2}$$

95% confidence level and p = 0.5 are assumed

 Where N= 225; e= 5%

   n= N/ [1+ N(e)^2]

    = 225/ [1+ 225(0.05)^2]

    = 144

As noted above, the calculation was specifically used to get the sample size for parents from ten ECE Centres. Therefore, the sample size constituted one hundred and forty-four parents/guardians from both public and private ECE Centres. In order to ensure equal distribution of questionnaires between parents in public ECE Centres and private ECE Centres, the researcher divided one hundred and forty-four (sample size) by ten ECE Centres (public and private) (144 ÷ 10 = 14.4). Based on this calculation, 14.4 was rounded off to 15, implying that fifteen questionnaires were distributed per ECE Centre. The aim of distributing the questionnaires equally among the participants was to ensure that there was an equal opportunity given to all parents/guardians to express their views on teachers' assessment practices in ECE at ECE Centres without being disadvantaged numerically. Below is Table 3.2 illustrating the status of questionnaire distribution and returns.

Table 3.2: *Status of questionnaire distribution and returns for parents/guardians*

Participants	Given	Returned	Retention Rate
Public ECE Centre:	75	62	82.6 %
Private ECE Centre:	75	63	84%
Total:	150	125	83.3%

 Source: Fieldwork data

From Table 3.2 above, it shows that there were seventy-five questionnaires which were initially given to parents/guardians in public ECE Centres but only 62 (82.6%) were completed and returned. Similarly, there were seventy-five questionnaires which were initially given to parents/guardians in private ECE Centres but only 63 (84%) were completed and returned. Therefore, a total of one hundred and fifty (150)

questionnaires were given but only 125 (83.3%) questionnaires were received and analysed. The following is a detailed description of the sample size.

3.6 Sample size

Matula et al. (2018:88) describe a sample as a "sub-section of the population selected by either probability or non-probability methods to participate in the study." The sample comprised a total of two hundred and thirty-seven (237) participants broken down as follows; one hundred and two (102) teachers, one hundred and twenty-five (125) parents, and ten (10) head teachers, all sampled from Lusaka District. Both probability and non-probability methods were used to select the sample size in this study. The sample size was determined by three considerations: the research design, which in this study was the mixed methods design; the method of data analysis, which was done by analysing the quantitative data using descriptive statistics; and the qualitative data using thematic analysis. The above considerations are in line with the guidance provided by Mugenda and Mugenda (2003). Quantitative data was obtained from one hundred and two (102) teachers while qualitative data was obtained from one hundred and twenty-five (125) parents and ten (10) head teachers.

The teachers' demographic data presented in the tables includes, sex of respondents, age, teaching qualification, teaching experience and experience in using the revised ECE curriculum. The teachers' demographic data showed five males (4.9%) and 97 females (95.1%). The age range was presented as follows: those aged 18 to 25 years were six (5.9%), 18 (17.6%) were aged 26 to 30 years, 41 (40.2%) were aged 31 to 35 years, and 37(6.3%) were above 36 years old. Teachers' teaching qualifications were as follows; Certificate 58 (56.9%), Diploma 39 (38.2%), Bachelor's degree, four (3.9%) and one (1.0%) had a master's degree. Full details of the demographic characteristics of teachers are shown in below in Table 3.3.

Table 3.3: *Demographic characteristics of teachers*

Variables	Frequency (n= 102)	%
Sex of respondent		
Male	5	4.9
Female	97	95.1
Age		
18 to 25 Years	6	5.9
26 to 30 Years	18	17.6
31 to 35 Years	41	40.2
36 Years & above	37	36.3
Teaching qualification obtained		
Certificate	58	56.9
Diploma	39	38.2
Bachelor's degree	4	3.9
Master's degree	1	1.0
Teaching experience		
1 year & below	7	6.9
2 to 5 years	30	29.4
6 to 10 years	34	33.3
Above 10 years	31	30.4
Experience in using the revised ECE curriculum		
1 year & below	17	16.7
2 to 3 years	41	40.2
4 to 5 years	22	21.6
5 to 6 years	12	11.8
No response	10	9.8

Source: Fieldwork data

Additional information on demographic characteristics among others included type of ECE Centre where the teachers were drawn from and the number of years the ECE Centres had been in existence. The respondents taught in 18 (50%) public and 18 (50%) private ECE Centres. The number of years the ECE Centres had been in existence ranged from 0 to 16 years as shown in Table 3.4.

Table 3.4: *Number of years the ECE Centres had been in existence.*

Variable	Frequency (n=36)	%
Number of Years the ECE Centre has been in existence		
0 to 5 Years	19	52.8
6 to 10 Years	5	13.9
11 to 15 Years	5	13.9
16 Years & above	7	19.4
Total	**36**	**100**

Source: Fieldwork data

Regarding the number of children individual teachers had in their respective classes, they ranged from, not more than 20 to above 40. Those teachers with not more than 20 children were 42 (41.2%), about 30 (19.6%) teachers had a range of between 21 to 30 children, while 20 (19.6%) teachers had children ranging between 31 to 40 and those teachers with above 40 children were 10 (9.8%).

Regarding enrolment of children with Special Educational Needs (SEN) in ECE Centres, the breakdown is as follows: 46 (45.1%) teachers indicated that their ECE Centres enrolled children with SEN while 56 (54.9%) teachers indicated that their ECE Centres did not enrol children with SEN.

Additional information on demographic characteristics for ECE Centres was sought to establish, among other things, whether the children were individually assessed for school readiness before enrolment. The results indicate that out of 125 parents, 79 (63.2%) said Yes, 43 (34.4%) said No, whilst 3 (2.4) did not indicate any response on the questionnaire. In addition, the study sought to establish whether the person conducting the assessment explained its purpose to the parents before administering it. The results indicate that, although 79 parents agreed that their children were assessed before enrolment, only 21 (27%) out of 79 ticked yes in the column where parents needed to

indicate whether the person who administered the test explained to the parents what the assessment was about whilst 54 (68%) ticked no, and four (5%) did not indicate any response.

The next demographic data presentation is that of parents/guardians. The parents'/guardian's demographic characteristics analysed included, among others: the sex, age and the relationship of the respondent to the child. It is imperative to show the demographic characteristics of research participants (parents/guardians) because the data that is presented might be relevant when explaining certain research findings that are best understood when the demographic data have been exemplified. The age ranged from 18 to 36 years and above. The specific age categories show that those aged from 18 to 25 years were six (4.8%), from 25 to 30 years were 38 (30.4%), from 31 to 35 years were 34 (27.2%) and those above 36 years were 47 (37.6%). Table 3.5 shows the relationship of the respondent to the child and other details.

Table 3.5: *Demographic characteristics of parents/guardians*

Variables	Frequency (n= 125)	%
Sex of respondents		
Male	37	29.6
Female	88	70.4
Age of respondent		
18 to 24 years	6	4.8
25 to 30 years	38	30.4
31 to 35 years	34	27.2
Above 36 years	47	37.6
Relationship of the respondent to the child		
Father	31	24.8
Mother	72	57.6
Uncle	3	2.4
Aunt	7	5.6
Grand father	3	2.4
Grand mother	9	7.2

Source: Fieldwork data

The demographic details below show where the parents were drawn from with regards to specific type of ECE Centre. The frequencies and percentages indicate the parents/guardians of children who were learning at the respective ECE Centres. The study showed that there were 62 (49.6%) respondents from public ECE Centres and 63 (50.4%) respondents from private ECE Centres.

The next demographic data is a presentation of head teachers from five public ECE Centres and five private ECE Centres. The head teachers' demographic characteristics analysed included among others: the sex of respondent, age, highest teaching qualification obtained, ECE teaching qualification, teaching experience and experience in supervising Early Childhood Education teachers. It is imperative to show the demographic characteristics of head teachers in this current study because by virtue of their position, they were the overall supervisors of the teachers hence they held influential positions which had the potential to influence how assessment was being conducted at ECE Centres. Further, insight of their demographic data could clarify assessment practices in ECE Centres.

From public ECE Centres, there were two male respondents and three female respondents. The respondents were all aged between 51 and 58 years. One respondent had a bachelor's degree in secondary teaching, three of them had diplomas in secondary teaching whilst one had a primary teaching diploma. None of the Head teachers had teaching qualification in ECE. Regarding teaching experience, three of the respondents had teaching experience that ranged between 20 and 25 years of teaching experience, whilst two of the respondents had teaching experience that ranged from 26 to 30 years. However, two respondents had less than a year to one-year experience in supervising early childhood education teachers, whilst the other three respondents had two to three years' experience in supervising ECE teachers. Table 3.6 below shows the demographic characteristics of head teachers in private ECE Centres.

Table 3.6: *Demographic characteristics of head teachers in public ECE Centres*

Variables	Frequency (n= 5)
Sex of respondent	
Male	2
Female	3
Age	
51 to 55 years	1
56 to 60 years	4
Highest teaching qualification obtained	
Diploma – Primary Teaching	1
Diploma – Secondary Teaching	2
Bachelor's degree -Secondary Teaching	2
ECE Teaching qualification	
None	0
Teaching experience	
20 to 25 years	3
26 to 30 years	2
Experience in supervising Early Childhood Education teachers	
1 year & below	2
2 to 3 years	3

 Source: Fieldwork data

Demographic details of head teachers from private ECE Centres showed two male respondents and three female respondents. Two of the respondents were aged between 35 and 40 years, while the other three were aged between 41 and 45 years. Two respondents had bachelor's degrees in secondary teaching, whereas two had diplomas in secondary teaching whilst one respondent had a primary diploma. Among the five respondents, three Head teachers had teaching qualifications in Early Childhood Education at certificate level. Regarding teaching experience, three of the respondents had teaching experience ranging from 11 to 15 years. One respondent had teaching experience ranging from 5 to 10 years, whilst the other had an

experience ranging from 1 to 5 years. Regarding experience in supervising Early Childhood Education teachers, one respondent had an experience that ranged between 1 to 5 years. In contrast, two respondents had an experience that ranged between 6 to 10 years whilst the other two respondents had experience that exceeded 11 years. Below is Table 3.7 showing demographic details of head teachers from private ECE Centres.

Table 3.7: *Demographic characteristics of head teachers in private ECE Centres*

Variables	Frequency (n= 5)
Sex of respondent	
Male	2
Female	3
Age	
35 to 40 years	2
41 to 45 years	3
Highest teaching qualification obtained	
Diploma – Primary Teaching	1
Diploma – Secondary Teaching	2
Bachelor's degree –Secondary Teaching	2
ECE Teaching qualification	
Three Head teachers	3
Teaching experience	
1 to 5 years	1
5 to 10 years	1
11 to 15 years	3
Experience in supervising Early Childhood Education Teachers	
1 to 5 years	1
6 to 10 years	2
Above 11 years	2

Source: Fieldwork data

3.7 Research instruments

Research instruments are tools used to gather data to address the research questions (Matula et al., 2018), researcher is expected to use appropriate instruments in line with the research design employed in the study. Therefore, questionnaires, an Interview schedule, Focus Group Discussion guide, an Observation Checklist and a Document analysis guide were used to collect data in this study. The following section briefly discusses why and how each of the instruments was used.

3.7.1 Questionnaire

Questionnaires are a set of questions administered to individuals to gather useful information (Harlacher, 2016). In this study, questionnaires were administered to teachers in order to generate valuable information on assessment practices used by teachers in ECE Centres and show the nature of early childhood assessment challenges experienced by teachers in ECE. On the other hand, it was hoped that parents' questionnaires would provide additional information on assessment practices used by teachers in ECE Centres from the perspectives of parents as key players in the assessment of young children. Consequently, it was envisaged that it would enable the researcher to compare the views of both teachers and parents to have an in-depth understanding of assessment practices used by teachers in ECE Centres.

3.7.2 In-depth interview guide (unstructured interview guide)

The researcher in this study conducted one-to-one in-depth interviews with head teachers for approximately forty minutes to have more insight on assessment practices used by teachers in ECE Centres from an administrative point of view. As suggested by Morris (2015), the researcher conducted in-depth interviews that required asking questions and following up on the responses of the interviewee in an endeavour to extract as much information as possible from the respondents. In this study, the researcher solicited information from head teachers because they held a supervisory position and were assumed to have the needed information on how teachers conducted

an authentic assessment. In addition, the researcher was interested in gathering more information on what they had put in place to ensure capacity building mechanisms that would help enhance authentic assessment practices by teachers. In addition, this interview guide was helpful when interpreting all the non-verbal cues and visual cues, which are often not so vivid when the interview is not done in person. For instance, the researcher could tell whether the head teachers were sure about the teachers' assessment practices by being attentive to their expressions and intonation as they spoke.

3.7.3 Focus Group Discussion guide

This tool was used to obtain data from teachers in both public and private ECE Centres. According Nyumba, Wilson, Derrick and Mukheerjee (2018), a Focus Group Discussion (FGD) is frequently used as a qualitative approach to gain an in-depth understanding of social issues. The social issues in this study were assessment practices used by teachers in ECE. The FGDs generated multiple and diverse understandings of teachers' assessment practices in ECE. The researcher gained more insight into strategies and tools teachers use to assess children. The discussions also helped the researcher have a deeper understanding of the challenges of assessment in ECE.

3.7.4 Document analysis guide

According to Bowen (2009), document analysis is a method often used in qualitative research in which the researcher interprets the documents to give voice and meaning around an assessment topic. Therefore, a Documentary analysis guide was an essential instrument used in this study to investigate assessment practices by teachers at ECE Centres. O'Leary (2014) classified documents into three. The first one being Public Records. These show the official, ongoing records of an organization's activities, such as student transcripts, mission statements, annual reports, policy manuals, student handbooks, strategic plans, and syllabi. In ECE Centres, public records analysed, among others, include pupil's report books/report forms, copies of test items revised ECE

curriculum, schemes of work and supplementary materials. Analysing these relevant documents helped the researcher have an in-depth understanding of the assessment practices used by teachers in ECE Centres.

The researcher also took time to analyse supplementary materials teachers use in ECE for various purposes. These include materials such as an "Early Childhood Education Standard Guidelines document" (Ministry of General Education, 2016). This document prescribes the minimum standards and guidelines that should be adhered to by education boards, head teachers, providers of ECE and all other stakeholders. Understanding these guidelines helped the researcher know what the minimum standards teachers are expected to adhere to as they have the potential to influence how assessment is conducted in ECE.

Other documents analysed were "Early Childhood Education Resource Book: for Early Childhood Care, Development and Education Teachers" (Curriculum Development Centre, 2014 b), which explains parenting issues and how a teacher can communicate and collaborate with parents while the other one was the "Early Learning and Development Standards for Zambia" (Ministry of General Education, 2016). This document provides an essential framework for establishing what young children should know and be able to do at a particular given stage. The document gave the researcher a clue on what to focus on when observing how assessment was being carried out in ECE Centres. Another document that was analysed is an assessment tool called *The Child Development Assessment Tool for Zambia (CDATZ) (*first edition) targeted children aged between zero to six years by Ettling, Msango, Matafwali, Mandyata, Mundaala-Simfukwe, Mweembe, et al., (2006) and the (second edition) by Curriculum Development Centre (2014). It was inevitable to analyse this tool because the Ministry of General Education in Zambia advocates for its compulsory use in all ECE Centres as a primary assessment tool for assessing child development (Curriculum Development Centre, 2014 a). Therefore, gaining insight into what is contained in the CDATZ enabled the researcher

to probe from teachers on how they were using the tool for assessment and observe how they were practically using it for assessment in ECE.

O'Leary (2014) suggests documentary analysis documents show first-person accounts of an individual's actions, experiences, and beliefs, such as calendars, e-mails, scrapbooks, blogs, duty logs, incident reports and reflections/journals. Thus, the researcher took a keen interest in analysing the school calendar, duty logs, reflections/journals. These documents showed how ECE Centres operated and how teachers executed their duties. The researcher also took time to analyse documents displayed on classroom walls to ascertain the kind of charts, flyers, and posters displayed to ascertain content coverage and its implication on assessment. Once the researcher reviewed all the available documents of interest, the content was analysed and interpreted through the systematic classification process of coding and identifying themes or patterns (Hsieh and Shannon, 2005). Documentary analysis enhanced the researchers' understanding of the assessment practices used by teachers in ECE Centres.

3.7.5 Observation checklist

Johnson and Turner (2003) suggest the use of observation checklists combined with questionnaires and interviews to collect first-hand information. Therefore, the researcher spent two to three days in each of the ECE Centres conducting a non-participant observation in order to understand how assessment was conducted in a natural setting. An observation checklist was helpful because it allowed the researcher to check whether teachers conducted the assessment with ease and if teachers used assessment results for planning. The researcher was able to tell whether teachers adhered to what has been prescribed in the revised ECE curriculum or if teachers were conducting the assessment as they wished. Most importantly, observations allowed the researcher to substantiate some of the findings from the data collected using other research instruments in this study.

3.8 Reliability and validity of instruments

The issues of the reliability and validity of the instruments are essential for both quantitative and qualitative research. Therefore, it is inevitable to ensure that matters of reliability and validity are addressed regardless of the research design one employs if that study is considered credible (Lakshmi and Mohideen, 2013).

3.8.1 Validity and trustworthiness

Validity is the "accuracy and meaningfulness of inferences, which are based on the research results" (Mugenda and Mugenda, 2003: 99). It can also be said that validity is how any measuring instrument measures what it is intended to measure (Thatcher, 2010). Content validity was applied in this study to establish the validity of quantitative data, which was collected through teachers' and parents' questionnaires since "Content validity refers to the accuracy with which an instrument measures the factors under study" (Matula *et al,* 2016:111). In order to ensure accuracy of questionnaires with regards to what they measure in the current study, the researcher reviewed literature and extracted related items relevant to the study when designing the instrument. After that, the instruments were subjected to a thorough scrutiny by experts, experienced colleagues and supervisors in the area of early childhood education. Thus, the instruments were peer-reviewed, and these experts' suggested ways of improving some items so that accurate and meaningful data was obtained (Taherdoost, 2016).

Furthermore, unlike quantitative researchers, who apply statistical methods for establishing validity and reliability of research findings, qualitative researchers aim at designing and incorporating methodological strategies to ensure the 'trustworthiness' of research findings (Noble and Smith, 2015). The reliability and validity of qualitative data was established by incorporating methodological strategies to ensure the 'trustworthiness' of the findings. Therefore, to ensure 'trustworthiness,' the researcher included rich and thick verbatim descriptions of participants' accounts to support findings and made sure that there was clarity of thought throughout the research

analysis process by ensuring that interpretations of data were consistent and transparent. Finally, triangulation of data was done by making comparisons of different kinds of data obtained from different instruments to see whether they collaborated.

3.8.2 Reliability

According to Matula et al., (2016: 111-112), "Reliability is the extent to which a measuring instrument and procedure, produce the same results on repeated trials." Similarly, Mugenda and Mugenda (2003:95) stated that "reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials." In order to check the reliability of the teachers' questionnaire, the instrument was subjected to a test-retest reliability technique. Test-retest reliability is a measure of reliability obtained by administering the same test twice over a period to the same group of people. The scores from the first time and second time can then be correlated in order to evaluate the test for stability over time (Mohajan, 2017).

For example, according to Sim and Wright (2005) and Madan and Kensinger (2017), the coefficient of reliability falls between 0 and 1, with perfect reliability equalling 1, and no reliability equalling 0. If the reliability coefficient is high, for example, ≥ 0.9, then it shows excellent reliability and that suggests that the instrument is relatively free of measurement errors. if the coefficient is ≥ 0.8 < 0.9, then that can be good reliability, if the coefficient is ≥ 0.7 < 0.8 then it is acceptable reliability, if the coefficient is ≥ 0.6 < 0.7, then it shows questionable reliability, if the coefficient is ≥ 0.5 < 0.6, it shows unacceptable reliability whilst 0 shows no reliability. Therefore, the Test-retest reliability was done by administering the same instruments twice to the same group of twenty (20) teachers.

The relationship between the examinees' scores from the two different administrations was estimated, through statistical correlation using Kendall's tau b and Spearman's rho to determine how similar the scores were. The test-retest reliability administered on the questionnaires indicated score variations of above ≥ 0.9. This suggested that the

instrument was relatively free of measurement errors and could be used for data collection. The result from the table shows that there was a strong correlation between the two tests results using the both the Kendall's tau b and Spearman's rho. This is supported by the p-value that is less than 1%. Table 3. 8 shows the details.

Table 3.8: *Test-Retest Reliability Correlations*

Correlations

			Test (Test 1)	Re-Test (Test 2)
Kendall's tau b	Retest (Test 2)	Correlation Coefficient	1.000	0.983**
		Sig. (2-tailed)	.	.000
		N	20	20
	Retest (Test 2)	Correlation Coefficient	0.983**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20
Spearman's rho	Retest (Test 2)	Correlation Coefficient	1.000	0.995**
		Sig. (2-tailed)	.	.000
		N	20	20
	Retest (Test 2)	Correlation Coefficient	0.995**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Fieldwork data

In addition, the researcher took into consideration the limitations of the test-retest reliability technique regarding time factors. For example, Rosenthal and Rosnow (1991) cited in (Drost, 2011), are of the view that when the interval between the first and second test is too short, respondents might remember what was on the first test and their answers on the second test could be affected by memory. Similarly, when the interval between the two tests is too long, there could be some changes that can take place among the respondents that may affect reliability. Therefore, the researcher took a

period of two weeks before administering the second test to avoid compromising the results.

3.9 Pilot study

According to Moore, Carter, Nietert and Stewart (2011), pilot studies are preparatory studies designed to test the performance characteristics and capabilities of study designs, measures, procedures, recruitment criteria, and operational strategies that are under consideration for use in a subsequent, often larger, study. A pilot study was conducted within Lusaka in four ECE centres selected by the researcher. It consisted of thirty-nine participants distributed as follows: Four head teachers (4); Twenty teachers (20) and fifteen (15) parents. The criteria used to sample respondents (in the pilot study) was the same criteria used to sample respondents who participated in the actual study.

However, those that participated in the pilot study were not included in the actual study. As for the instruments, they were pilot tested according to the groups of people and in line with the study's objectives. In addition, the instruments were equally pilot tested to ensure that the terms used, words, phrases, and sentences were clear to the respondents to avoid misinterpreting the questions. For instance, in the teachers' questionnaire in section C, the respondents were expected to indicate how frequently they used assessment tools and strategies in ECE Centres.

However, the question seemed to have been misunderstood as most respondents were just ticking instead of indicating the frequency. Consequently, this made the researcher rephrase the question to make it more straightforward for the respondents to know that they needed to indicate the frequency. Otherwise, there were no changes made to the other instruments. In addition, the pilot study enabled the researcher to develop better mechanisms on how to collect the filled in research instruments from teachers and parents if the researcher was to achieve a high retention rate. This included, among other aspects, making appointments that were convenient to the respondents and exchanging

contact cell numbers for communication purposes in case of any challenge or any change of programme by either party.

3.10 Data collection procedures

The researcher fulfiled the procedural demands of data collection as demanded in every study by providing all the procedures in a systematic way (Matula et al.,2018). For instance, written consent to conduct this study was sought from the University of Zambia, Directorate of Research and Graduate Studies (DRGS) through The University of Zambia Humanities and Social Research Ethics Committee (IRB) and permission was granted. A student introductory letter to commerce field work was obtained from the assistant dean of postgraduate studies (School of Education). Thereafter, permission was sought from the Ministry of General Education through the District Education Board Secretary (DEBS) for the researcher to access ECE Centres. At school level, permission was sought through headteachers to engage teachers and parents in the study in all the targeted ECE Centres. Field data was solely collected by the researcher, and it took three months for her to complete the exercise.

At every stage of the study, the researcher endeavoured to explain the scope and rationale of the study to all the participants before the commencement of data collection. Where they were not clear, participants were advised to seek clarification immediately or at any stage of the study considering that the researcher ensured that contact details of the principal investigator were availed to all the research participants. In addition, all those who accepted to participate in the study were requested to sign a consent form. Therefore, during the visits to the ECE Centres, head teachers, teachers and parents were informed about the scope and importance of the study and why their participation was important. During the fieldwork, head teachers were interviewed for approximately forty minutes from their offices at their respective ECE Centres. The head teachers were given an opportunity to seek clarification on any matter that they were being interviewed on of which the researcher took time to explain on matters that required further clarification.

As for the teachers and parents, the researcher gave both 48 hours to fill in the questionnaires. However, some teachers preferred to first discuss the content of the questionnaire with the researcher before they could fill in the questionnaire. This meant that some teachers returned the questionnaires later than expected. As for the parents, those with any queries were able to call the researcher for any clarification. The researcher collected the questionnaires from individual teachers whilst collection of the parents' questionnaires was done through the class teachers to promote collaboration and transparency although a few gave the researcher directly.

In addition, the researcher conducted two Focus Group Discussions (FGDs), one for teachers from public ECE Centres and the other one for teachers from private ECE Centres. A central place for all the discussants for each group was agreed upon by all the discussants. The researcher met the transport costs for the participants equivalent to the distance each one of them travelled. The FGDs took approximately forty minutes. The discussants were allowed to seek clarification on whatever issue that was not clear as the discussions went on. Similarly, the researcher also probed for further explanation on any matter that was not clear for clarity purposes. Further, the researcher carried out observations in ten ECE Centres for approximately two to three days in each ECE Centre. The researcher observed how the teachers were conducting assessment without any interference. However, the researcher was able to seek clarification from the teachers on any observed action that required understanding during the documentary analysis stage by referring to the teacher's lesson plans, weekly focus or schemes of work. This was amicably done, and the researcher was able to clarify any matter that needed clarification.

3.11 Data analysis

According to Matula et al., (2018: 117), data analysis "can be defined as the process of systematically organising, summarizing and scrutinizing responses obtained from respondents, whether in text format (qualitative research) or numbers (quantitative research), in order to make conclusion." In this study, both quantitative and qualitative

methods of data analysis were used considering that this study was a mixed methods study located within a pragmatic paradigm. Quantifiable data was analysed using the Statistical Package for the Social Sciences (SPSS) version 21. Data obtained from questionnaires were analysed quantitatively using descriptive analysis to describe assessment practices used by teachers. For instance, an analysis was done to determine which among several assessment strategies teachers were frequently using to assess children at ECE Centres and to ascertain the standardised assessment tools teachers were using for assessment. Another analysis was performed to ascertain to what extent teachers were knowledgeable about principles that guide assessment in ECE. Subsequently, the data obtained from the descriptive analysis were organised into bar charts, tables of frequency and percentages. An Independent sample t-test was used to check whether there was a significant difference in the teachers' knowledge level on principles that guide assessment in ECE Centres between teachers teaching in public ECE Centres and those teaching in private ECE Centres.

Furthermore, thematic analysis was used to analyse qualitative data which was coded and grouped according to cases and emerging themes using a framework approach of qualitative data analysis (Ritchie and Spencer, 1994). This framework is helpful in thematic analysis of qualitative data because it is not aligned to any specific epistemological, philosophical or theoretical approach. The framework can be used with a range of qualitative approaches because it is a flexible tool that can be adapted for use with many qualitative approaches that aim at generating themes (Gale, Heath, Cameron, Rashid and Redwood, 2013; Hackett and Strickland, 2019). It can be stated that the framework approach proved to be a valuable tool for qualitative data analysis in this study because it enabled the researcher to come up with themes that helped the researcher to have an in-depth understanding of assessment practices by teachers at ECE Centres in Lusaka.

In addition, the framework approach was used to organize and manage research through the process of summarization, resulting in a robust and flexible matrix output which

allowed the researcher to analyse data thematically. During data analysis, the gathered data were scrutinised, charted and sorted according to key themes. This involved a five step process that started with familiarisation; identifying a thematic framework; indexing (coding); charting; and then the mapping and interpretation (Ritchie and Spencer, 1994). For instance, during familiarisation, the researcher became familiar with the transcripts of the data collected from interviews, FGDs transcripts, observation checklist and documentary analysis. This gave a general impression of the collected data as suggested by Ritchie and Spencer, (1994). The second stage was about identifying a thematic framework from which the researcher was able to identify the emerging themes in the data set.

Thirdly, at the Indexing (coding) stage, the researcher identified sections of the data that corresponded to a particular theme which were applied to all the textual data that had been gathered (i.e., transcripts of interviews). The fourth stage was about Charting. At this point, the specific data that were indexed in the previous stage were arranged in thematic charts with headings and subheadings that were drawn during the thematic framework. Finally, mapping and interpretation was the final stage which involved the analysis of the key characteristics as laid out in the charts hence enabling the researcher to interpret the data set. In fact, Ritchie and Spencer (1994) suggest that at this point, the researcher should be conscious of the objectives of qualitative analysis, which involves several aspects, among them, defining concepts, finding associations, providing explanations, and developing strategies. Below is an illustration of the visual framework approach for qualitative data analysis that was employed.
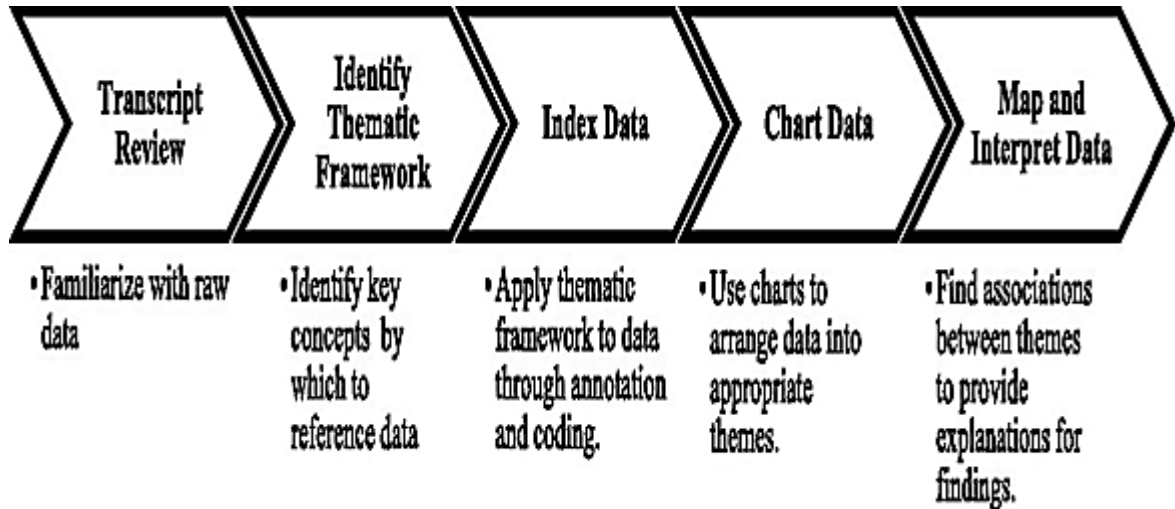
Figure 3.2: Illustration of a Visual Framework Approach for Qualitative Data Analysis

Source: Adapted from Ritchie & Spencer (1994).

3.12 Ethical considerations

It is imperative to take into consideration all the ethical requirements in all social science research because such research demands close contact with subjects (Babbie, 2013; Cullen, 2005). Before commencing this current study, the researcher obtained ethical approval from the University of Zambia Research Ethics Committee for Humanities and Social Sciences. Upon commencement of the study, permission was obtained from the Ministry of General Education through the District Education Board Secretary (DEBS) to work with the schools offering Early Childhood Education in Lusaka District. Additionally, the researcher sought permission from school administrators before involving teachers and parents in the study. All the participants were informed that participation was voluntary and that they were free to withdraw from the study at any given time if they felt uncomfortable. Additionally, the researcher observed confidentiality by upholding anonymity and by were assuring all the participants that the data obtained was going to be used for research purposes only. Finally, informed consent was obtained from all the participants.

3.13 Summary of chapter three

This chapter provided information on pragmatism as the research paradigm adopted in this study and presented information on mixed methods research design. A concurrent triangulation design that was employed in this study has been expounded. A concurrent triangulation mixed methods design was used in the study because the collection of data was done concurrently, and its combination provided a better understanding of assessment practices by teachers at ECE Centres in Lusaka. The sample size consisted of a total of two hundred and thirty-seven (237) participants distributed as follows; one hundred and two (102) teachers, one hundred and twenty-five (125) parents, and ten (10) Head teachers. These participants enabled the researcher to have an in-depth understanding of assessment practices by teachers in ECE Centres. The instruments for data collection include questionnaires, in-depth interview guide, document analysis guide, Focus Group Discussion (FGD) guide, and the observation checklist. Matters of reliability and validity in research were expounded to signify how relevant they were in enhancing credibility in research. Details of data collection procedures have been explained to show how the researcher adhered to ethical issues in research. In addition, both quantitative and qualitative methods of data analysis have been explained demonstrating how data were analysed. Finally, ethical considerations which were adhered to in this study have been explained. The next chapter presents the study findings.

CHAPTER FOUR: PRESENTATION OF FINDINGS

4.1 Overview

This chapter presents findings of the study on assessment practices used by teachers in Early Childhood Education Centres in Lusaka. The findings have been presented in line with the study's objectives, which were to: Establish assessment practices used by teachers in ECE Centres; Examine to what extent teachers were knowledgeable about principles that guide assessment in ECE and Establish challenges, if any, experienced by teachers in early childhood assessment. In addition, themes that emerged from literature review and fieldwork that were in line with the objectives have also been used to present the findings in order to provide further insight on assessment practices used by teachers in ECE Centres.

4.2 Assessment practices used by teachers in ECE Centres

Assessment practices used by teachers in ECE Centres could be formative or summative. Teachers used various procedures and approaches to gather information about children's development and academic learning from several sources which they analysed and interpreted. Therefore, to answer objective number one, which was to: "Establish assessment practices used by teachers in ECE Centres," Four major themes were investigated, of which each theme had specific sub-themes. The first theme to be investigated was "Assessment practices used by teachers in ECE Centres." The sub-themes were as follows: Assessment of learning involving formal assessment methods in ECE Centres; assessment of learning involving end of term tests by analysing teachers' comments and assessment for learning involving informal assessment methods in ECE Centres.

The second theme investigated was "Assessment strategies in the context of this study." The sub-themes were as follows: Assessment strategies used by teachers in ECE Centres; assessment strategies teachers frequently use to assess children in ECE Centres; views

of parents on how teachers administered homework; frequency of homework and how parents rated their involvement in the assessment process of their children.

The third theme investigated was "Observation and documentation of assessment in ECE." The following were the sub-themes investigated: Assessment through observation as an integral part of the ECE programme; documentation of assessment in ECE Centres; teachers' understanding of assessment in ECE; how teachers learned to assess children in ECE; reasons why teachers struggle to effectively assess children in ECE Centres; head teachers' understanding of assessment in ECE and interpretation of the revised ECE curriculum by head teachers.

The fourth and final theme investigated under objective number one was: "Standardised assessment tools used by teachers in ECE Centres." The sub theme investigated was reasons for not using standardised assessment tools in ECE Centres. The first to be presented are sub-themes under "Assessment practices used by teachers in ECE Centres."

4.2.1 Assessment of learning involving formal assessment methods in ECE Centres

Assessment of learning is usually implemented through formal assessment methods in ECE Centres. Therefore, the study sought to establish which of the formal assessments were being administered in ECE Centres and how frequent teachers were administering the named formal assessments (summative assessments). The teachers were therefore asked to tick against what was applicable from the list provided. The results showed that mid-term tests were the most frequently administered, showing that 83 out of 102 teachers used it followed by the end of term tests showing a frequency of 80, then followed by Readiness tests at 61 with the least being Diagnostic tests (Developmental screening) at a frequency of 12. Details are shown in Figure 4.1 below.
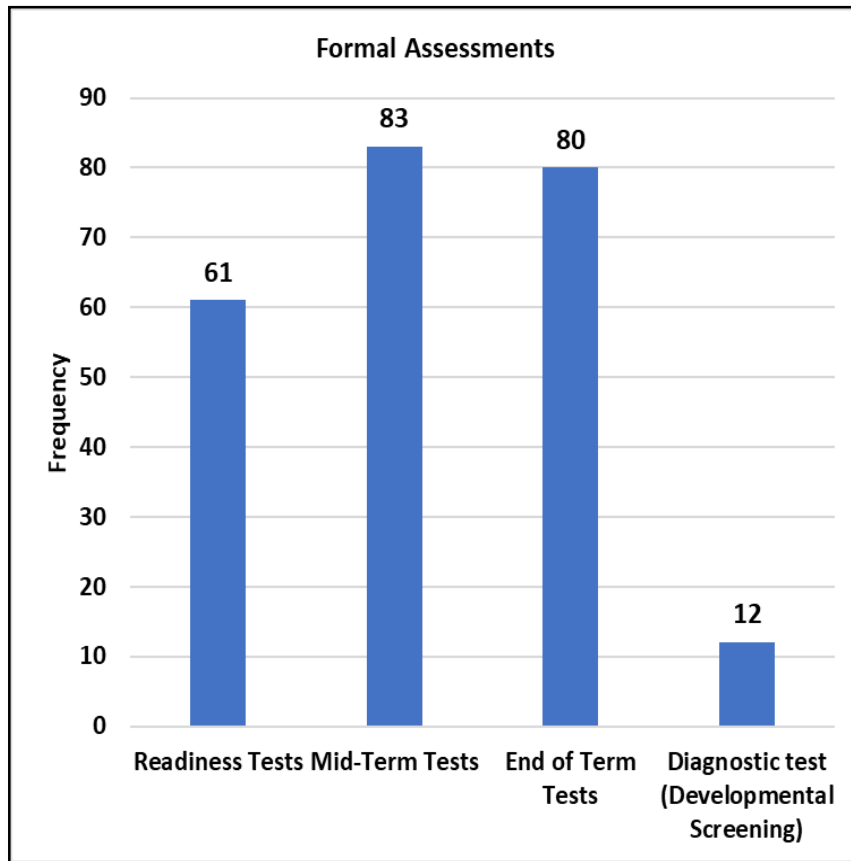
Figure 4.1: Formal assessment in ECE Centres

Source: Fieldwork data

When asked during FGDs to explain how teachers conducted formal (summative) assessments in ECE, the teachers revealed that they used class exercises and teacher-designed tests administered orally or in writing of which mid-term tests and end of terms tests also formed part of the assessment in ECE Centres. For example, this is what teachers A said:

> *I use written exercises to assess the children in my class. I also conduct mid-term tests before children go for their mid-term break and then conduct end of term tests at the end of the term* [Teacher A].

Teacher H affirmation what teacher A said although there there was an indication that at another school, the tests given were also aimed at determining the individual children's readiness for grade one. This is what she said:

> *Yes, even me. The pupils at our ECE Centre are required to write both mid-term tests and end of term tests. At the end of the year, these tests help us to make decisions whether or not a pupil proceeds to grade one or not* [Teacher H].

Meanwhile teacher B, after attending a workshop on the use of the revised curriculum, had a different perspective of formal assessment in ECE best explained in this statement:

> *Well, at the workshop which l attended two weeks ago, the people from the Ministry of General Education stopped the teachers from conducting midtTerm tests and End of term tests as methods of assessments in ECE. Instead, we were told to be using the "Child Development Assessment Tool for Zambia" (CDATZ) to assess children at the end of the term. Failure to comply will result in being charged* [Teacher B].

Teacher G also attended the same workshop and had this to say:

> *She is right, at the workshop we attended, we were stopped from assessing children using mid-term tests and end of term tests. So beginning next term, I will not be giving End of term tests, instead I will be using the "Child Development Assessment Tool for Zambia" to assess children* [Teacher G]*.*

From the discussion, it was noted that teachers conducted various formal (summative) assessments in ECE although there was uncertainty on how teachers were expected to use the "Child Development Assessment Tool for Zambia" (CDATZ), for assessment of children in ECE Centres. The next presentation is an analysis of teachers' comments regarding assessment of learning involving end of term tests.

**4.2.2 Assessment of learning involving end of term tests by analysing teachers'
comments**

The data obtained from the teachers' revealed that mid-term and end of term tests
were prominently used in ECE Centres. Subsequently, the study sought to ascertain
what teachers commented on the Report forms/Cards with regards to end of term
tests. In particular, the study sought to ascertain whether the teachers' comments
and the tests given to children had characteristics of summative assessment.
Therefore, parents were asked to tick against what teachers commented in the
children's Report book/Cards from the list provided. The findings revealed that out of
the 125 parents, 75 (60%) of the parents stated that teachers indicated the child's
overall performance by signalling his/her relative position compared to other children
whilst 50 (40%) stated that teachers did not indicate the child's overall performance
by signalling his/her relative position compared to other children. These results
suggested that teachers administered summative assessment in ECE Centres.

In order to ascertain what teachers exactly commented on the Report forms/Cards, if
they did not indicate the position of the child in comparison to the other children in
class, parents were asked to write what teachers commented. The findings revealed
that out of a total of 50 parents who indicated that teachers did not indicate the
position of the child on the report forms/cards in relation to other children but instead
made comments. It was revealed that six indicated that teachers only gave verbal
reports on open days (days when Report forms/Cards are collected), 18 parents
indicated that teachers' comments on children's performance were written as *Very
good*, *Good* or *Excellent*, while three parents indicated that teachers made
recommendations based on how the child had performed in different subjects. In
addition, six parents indicated that the teachers made comments on subject
performance whilst 17 parents indicated that the teachers just made general
comments on the child's performance. In general, the results on what teachers

commented also suggest that teachers often used summative assessment for assessment of children in ECE Centres. Details are shown in Figure 4.2

Teacher's Comments on Children's Report Form/Card

Comment	Frequency
Only verbal reports are given on open day.	6
Indicates V.Good, Good or Excellent	18
Makes recommendations based on performance	3
Comments on subject performance	6
General comments	17
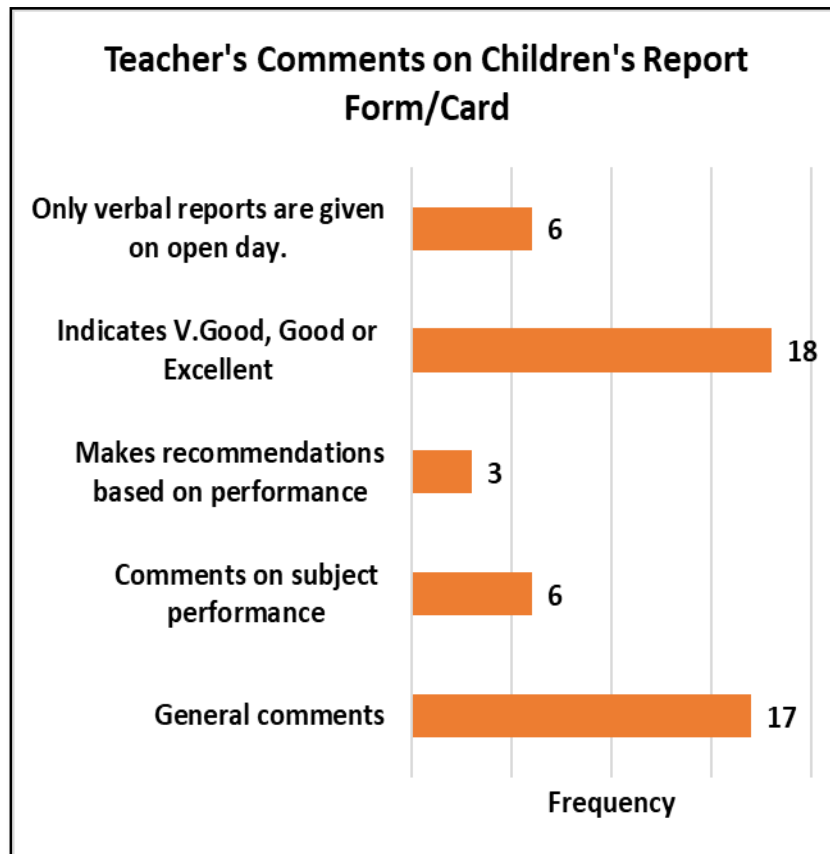
Figure 4.2: Teachers' Report form/Card comments

Source: Fieldwork data

4.2.3 Assessment for learning involving informal assessment methods in ECE Centres

Regarding informal assessments, the FGDs revealed that teachers were using oral questions, collection of samples, portfolios, interview guides, music, games and dances. For example, Teacher E said:

> *I either give oral questions or written exercises each time I finish teaching to assess what children have understood* [Teacher E].

Teacher J, had this to say:

> *I personally like collecting samples of children's work although lately, it is becoming difficult to do so because the number of children in my class has increased and managing their individual files is quite difficult* [Teacher J].

As for teacher F, she had this to say:

> *I often use Portfolio and Learning story but I also like showing Cartoons* [Teacher F].

On the other hand, teacher C explained how she used music, games and dances to teach and assess children in an ECE Centre and this is what she said:

> *Every time I teach a new concept, it is accompanied by a song, a rhyme or a dance because children do not easily forget what is taught when they can sing about it. For example, if I want to teach children about numbers or wild animals, then children will sing songs that talk about those concepts. Even the games I play with them, they are always in line with a particular theme. From the same activities, assessment is conducted* [Teacher C].

As for teacher D, this is what she had to say:

> *When I have a class aged between 3 to 4 years old, I often use Interview guides because I find it easy to get feedback from them. For the written work, they usually join dots which I write in their exercise books until they learn to write on their own* [Teacher D].

The above discussion with the teachers suggests that teachers used assessment for learning involving informal assessment methods in ECE of which they had their own reasons for doing so. What follows is a discussion on assessment strategies in the context of assessment practices used by teachers in ECE Centres.

4.3 Assessment strategies in the context of this study

In order to better understand the nature of summative and formative assessment teachers were implementing in ECE Centres, the assessment strategies by teachers were

explored further. In particular, it should be noted that assessment strategies in this study are described as a variety of methods teachers use like simple screening tools and evaluation techniques prescribed in the curriculum or developed by teachers or staff members in an Early Childhood programme to track and measure the progress of children's development and academic learning (Wortham, 2005).

4.3.1 Assessment strategies used by teachers in ECE Centres

When teachers were asked during FGDs to explain the assessment strategies that they were using to assess children in ECE Centres, teacher A had this to say:

> *I like giving the learners paper and pencil tests. They are very easy to administer, and they do not consume a lot of time* [Teacher A].

Teacher B responded in affirmation to what teacher A had explained but added a few other comments by saying:

> *Me too. In fact, I just use the chalk board to write the tasks and then I simply ask the children to copy the work on their own from the chalk board and follow the instructions given* [Teacher B].

Teacher C also gave similar remarks and said:

> *You are right, paper and pencil tests are easy to administer. In fact, at our Centre, most of the tasks are in print and all learners do is to follow the instructions that are indicated. Depending on their age, they either join the dots with their pencils or write using their pencils* [Teacher C].

On the other hand, teacher D said:

> *I use homework, interview guides and portfolios* [Teacher D].

Meanwhile teacher E gave examples of what she uses by referring to her most preferred assessment methods by saying:

> *As for me, I usually collect samples of children's work. I also use paper and pencil tests and Homework as my most preferred strategies* [Teacher E].

The above discussion suggests that teachers used various assessment strategies although they also preferred using certain assessment strategies for various reasons. The next heading presents assessment strategies frequently used to assess children in ECE Centres.

4.3.2 Assessment strategies teachers frequently used to assess children in ECE Centres

Furthermore, the study sought to ascertain the assessment strategies teachers frequently used to assess children in ECE Centres from a list that was provided. The teachers were expected to tick against what they were using for assessment in their respective ECE Centres and add to the list if there were other strategies that they used other than what was listed. Clearly, four strategies, namely homework, interview guides, standardised tests, pencil and paper tests were the most frequently used strategies by teachers in ECE Centres. Details are shown in Figure 4.3.
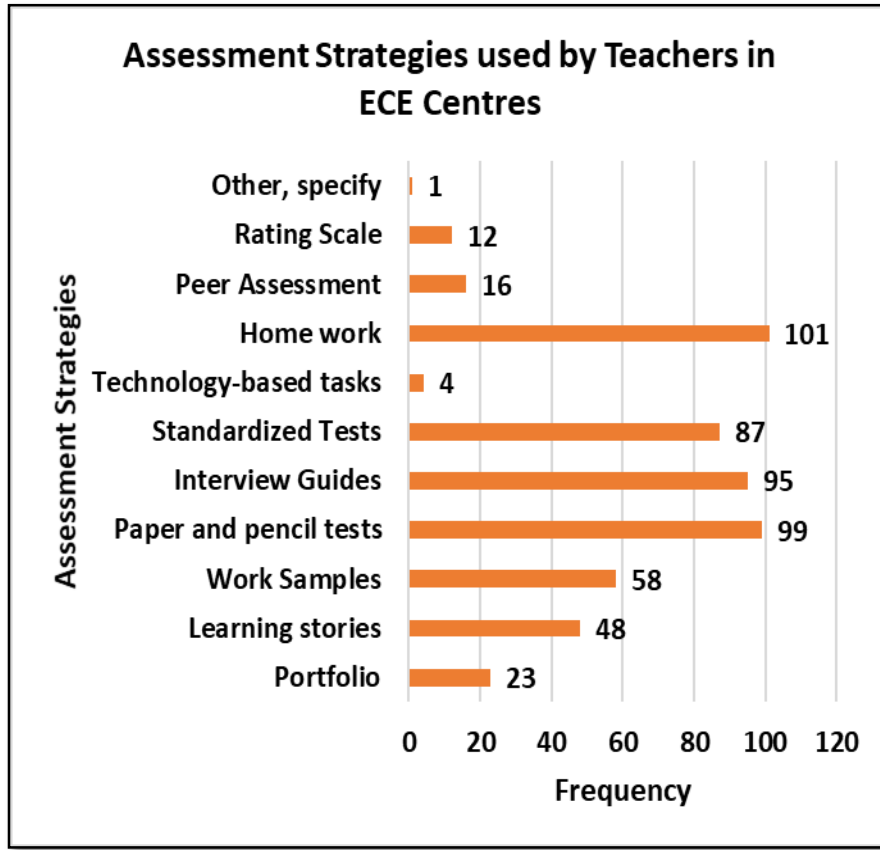
Figure 4.3: **Assessment strategies used by teachers in ECE Centres**

Source: Fieldwork data

4.3.3 Views of parents on how teachers administered homework

It was essential to establish how teachers administered homework by getting the views of parents because collaboration through homework is key in assessment of young children in ECE. Individual parents were asked to confirm if their child went with homework at home and with whom the child did the work with. Furthermore, the study sought to establish whether teachers explained the role of parents whenever teachers gave individual children homework. It also sought to establish if there were any collaborative measures between teachers and parents with regards to how parents needed to communicate and give feed-back on the child's work by reporting the progress and challenges if any. From a total of 125 parents who

participated in the study, 120 (96%) acknowledged that their children went with Homework at home whilst the remaining five (4%) indicated that their children did not go home with any homework.

Whether or not the child went with homework at home, the findings revealed that 120 (96%) parents indicated in the affirmative while five (4%) indicated in the negative. On whether the teacher created a provision where parents could comment on how the child had done the homework, 20 (16.7%) indicated in the affirmative whilst 100 (83,3%) indicated in the negative. On whether teacher provided a separate book for the parent to indicate their comments on how the child did the homework, 12 (10%) indicated in the affirmative whereas 108 (90%) indicated in the negative. Whether or not teachers communicated to parents on what exactly they were required to write or comment after their child had done the homework, 12 (10%) indicated in the affirmative whilst 108 (90%) indicated in the negative. The results suggest that although most children were given homework, teachers did not use appropriate strategies to get proper feedback from parents on how children did their homework hence defeating the purpose of homework.

4.3.4 Frequency of homework

The study sought to ascertain how frequent children were given homework to ascertain the extent to which children were doing schoolwork from home and the extent to which parents got involved in their children's work. The findings showed that 50 out of 120 parents indicated that their children went with homework at home at least one to two times in a week. The results indicate that most children did not do homework every day which was generally acceptable because play is much more pleasurable to children. Details of what the remaining 72 parents indicated are shown in Figure 4.4.
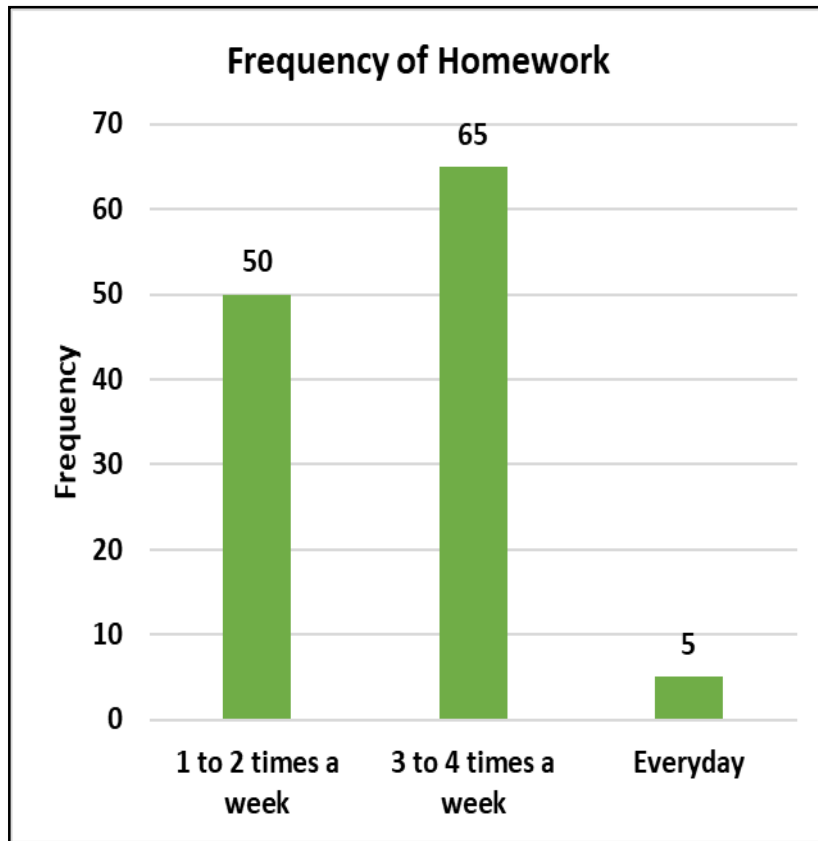
Figure 4.4: **Frequency of homework**

Source: Fieldwork data

In order to ascertain to what extent parents got involved in their children's work and to establish whether other persons in the home helped the children with homework, parents were asked to tick against what was applicable on the questionnaire and to indicate what was applicable in case the options did not suffice. The study showed that 85 (70.8%) parents out of 125 helped their children with homework while the rest of the children were helped by other persons who could be domestic workers, grandparents, uncles or aunties as shown in Figure 4.5.
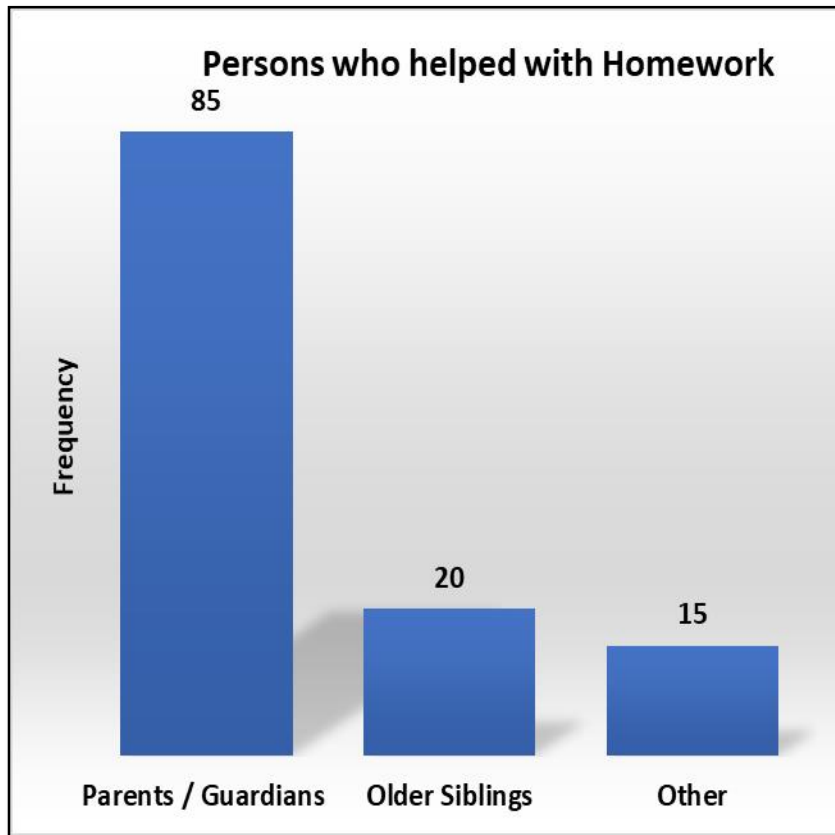
Figure 4.5: **Persons who helped with homework**

Source: Fieldwork data

4.3.5 How parents rated their involvement in the assessment process of their children

The study sought to establish how parents were involved in the assessment process of their children at ECE Centres (schools). Parents were asked to indicate whether teachers wrote to them (invited them) to discuss what they observed about their children's school performance. The results revealed that out of 125 parents that participated in the study, those that agreed to being written to (invited) were 10 (8%) and those that did not agree were 115 (92%).

Meanwhile, in order to establish how parents rated their involvement in the assessment process of their children, different categories of ratings were provided, and parents were asked to tick against what was applicable to them. Parents were asked to measure their

involvement by assessing whether the teacher had been consulting them on how their child was developing and academically learning) The study revealed that out of the 125 parents who participated in the study, 20.8% rated their participation as *poor*, 57.6% rated it *good*, 14.4% rated it *very good* whilst 7.2% rated it *Excellent*. Figure 4.6 shows the details.
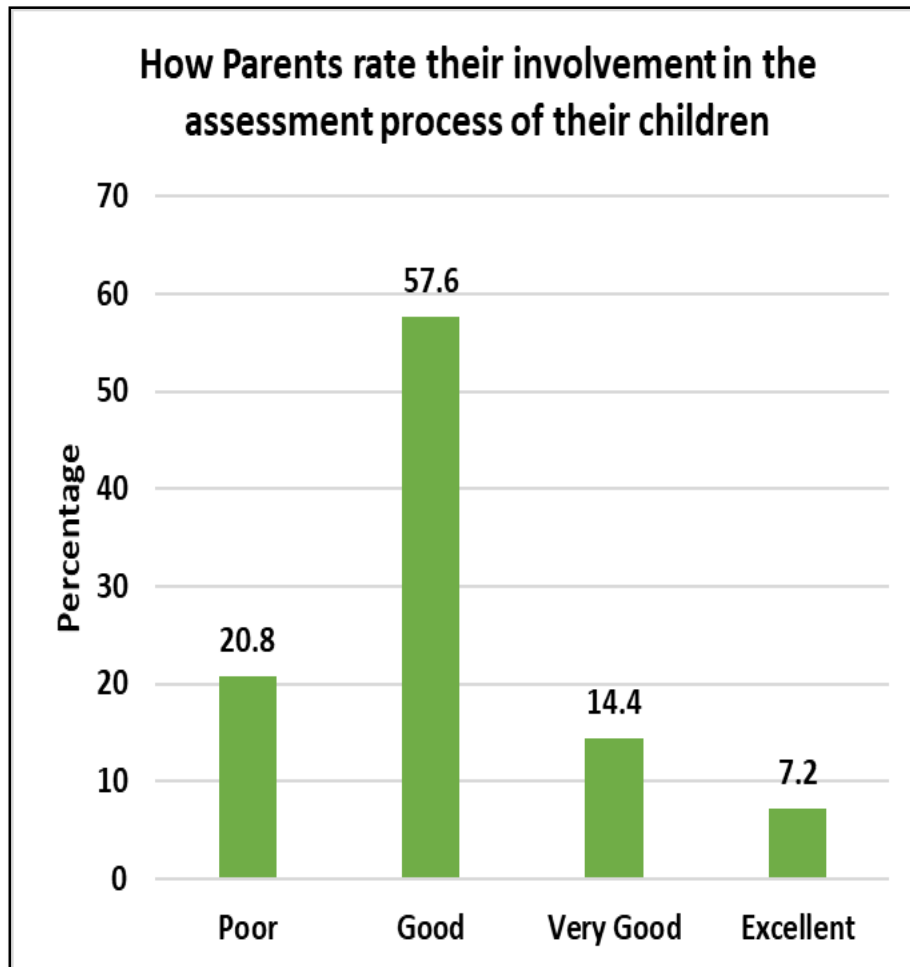
Figure 4.6: Self-rating of parental involvement in assessment

 Source: Fieldwork data

4.4 Observation and documentation of assessment in ECE

Observation is an integral part of the ECE Programme in the revised Zambian ECE curriculum; hence it was imperative to establish how teachers conducted observations and how assessments were documented in ECE Centres. Similarly, documentation is an essential part of assessment because the process enables the teacher to preserve and keep track of children's work as evidence of their progress.

4.4.1 Assessment through observation as an integral part of the ECE programme

The study sought to establish whether teachers knew that: there should be no formal written examinations set after finishing the work for each age group; assessment through observation was an integral part of the ECE programme; and assessment tools maybe used not as diagnostic tools but rather to guide in the establishment of the developmental pattern in children. Therefore, in accordance with what has been prescribed in the Zambian ECE curriculum, teachers were asked to indicate how assessment should be conducted in ECE Centres. The teachers were asked to write their answers on the space provided. In addition, the respondents were advised to leave the space blank if they did not know the answer to the question. In summary, the findings revealed that 80 teachers out of 102 did not know that assessment through observation was an integral part of the ECE programme. Figure 4.7 shows details of the responses given by individual teachers.
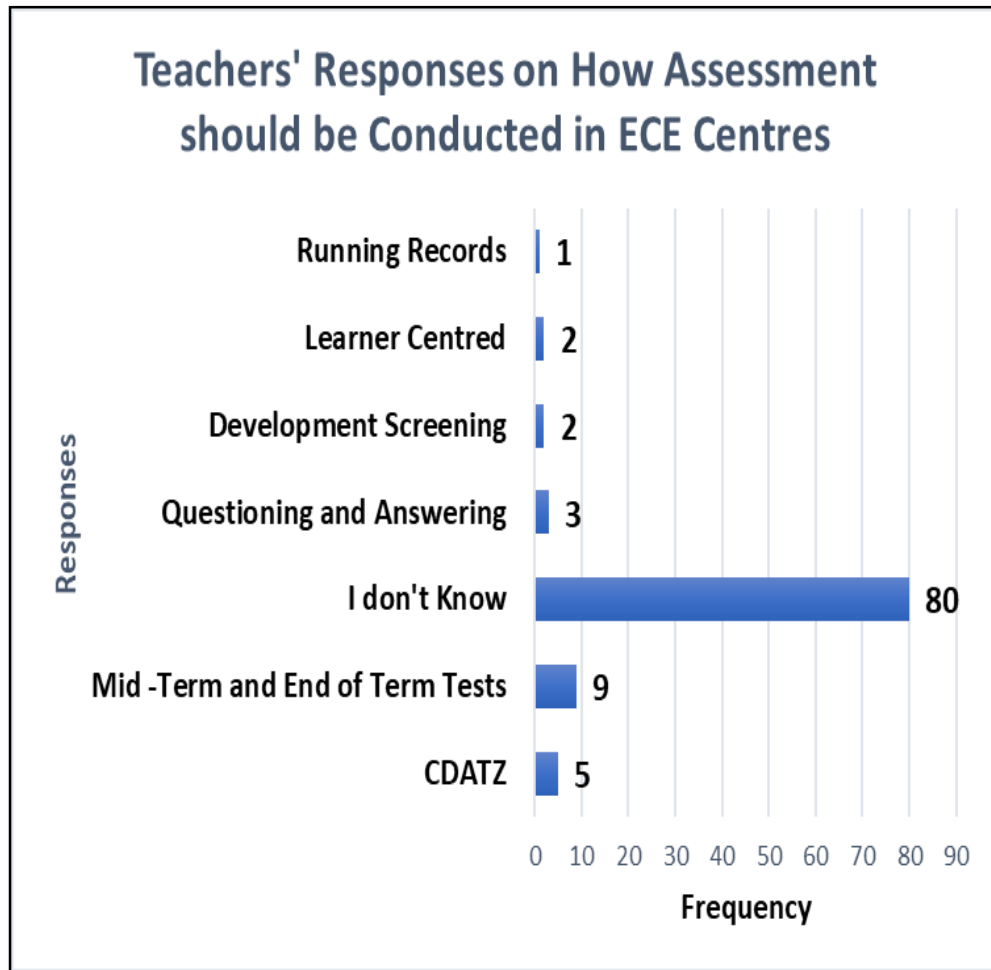
Figure 4.7: **Teachers' responses on how assessment should be conducted in ECE Centres**

Source: Fieldwork data

When the teachers were asked during FGDs how they interpreted and contextualised the prescribed assessment methods in the revised curriculum, various responses were given. Teacher B said:

> *I am not quite sure what is written in the syllabus. At our ECE Centre, we do not prepare schemes of work as individual teachers, the head of section is the one who prepares annual schemes of work as a result we rarely refer to the syllabus because everything is already documented for us* [Teacher B].

It was noted that some teachers did not use the revised curriculum to plan their work, instead they used the teacher's guides to do so, and this is what teacher A had to say:

> *I do not usually use the curriculum to plan my work, I prefer using the teacher's guides because they are somehow easy to use when lesson planning* [Teacher A].

Teacher J had this to say:

> *To be honest with you, the last time l read the curriculum was some two years ago when l was scheming for my Pre-grade class. Since l have been handling Pre-grade all this while, I have been using the same schemes of work to lesson plan* [Teacher J].

Teacher H had similar sentiments on the subject matter and had this to say:

> *For sure, there is no need of referring to the curriculum all the time when you are teaching the same age-group. It is like you get to know what needs to be taught even without referring to anything. Ah! Some of us have been teaching for more than a decade and we know these things* [Teacher H].

It was clear from the discussion that most teachers in ECE Centres were not referring to the new curriculum when planning children's work because of various reasons. This implied that teachers assessed children according to what they taught and not necessarily according to what is prescribed in the revised ECE curriculum. The next aspect focuses on documentation of assessment in ECE Centres.

4.4.2 Documentation of assessment in ECE Centres

When the teachers were probed during FGDs to explain how documentation of assessment was done in ECE Centres, the results revealed inconsistences in the documentation of assessment in ECE Centres. For example, teacher B had this to say:

What we often document at our Centre are test results because it is a requirement to keep a record of how the children perform in tests so that you can track how they are progressing from their overall marks in different subjects by the end of the year [Teacher B].

Teacher A was honest enough to state that:

Other than the mark sheet which I keep in my teaching file, I will be lying if I say that I kept records of assessment [Teacher A].

Teacher E had this this to say:

I wish I could document what the children do especially in creative activities, most of them have made tremendous progress but the school is not able to provide the required materials and most parents cannot even afford to buy a simple folder for their child. As of now, whatever they do, be it painting or drawing I give them to take home and show their parents. I have no idea what the parents do with the work [Teacher E].

Teacher F said that she had a children's corner in her class where she displayed several things, and this is what she explained:

I created a corner in my class where I put what I document on each child. The walls in that corner are also filled with children's work and the children really like that corner because they enjoy seeing their work being displayed [Teacher F].

When the researcher probed for an explanation on how the teachers documented what they observed daily, there was silence, but teacher C broke the silence and said:

The idea of observation and keeping records of what you observe as a teacher is a non-starter when you have a class of more than 30 children [Teacher C].

Teacher J made similar remarks and said:

The notion of documenting what you observe the children do is not practical in our ECE Centre because that approach requires a realistic teacher-pupil

ratio in class and it requires a lot of time and resources such as folders, stickers and a camera [Teacher J].

Furthermore, the findings revealed challenges in documentation of assessment hence the researcher asked teachers what the solution could be. Once again, there was silence and then teacher C exclaimed!

Kaya! (We do not know) [Teacher C].

The following is a presentation on teachers' understanding of assessment in ECE.

4.4.3 Teachers' understanding of assessment in ECE

The study sought to establish how teachers understood assessment in ECE in general in order to have a better understanding of how teachers understood assessment seeing that most of them exhibited little understanding on what was prescribed on assessment in the revised ECE curriculum. After some probing, the descriptions of assessment given by teachers during FGDs varied although their descriptions can be categorised according to the function they perform. The functions could be categorised as summative, formative or readiness in nature. For instance, teacher B, gave remarks denoting summative assessment and was of the view that:

> *Assessment of children requires that you give children some tests in order to know what they have understood about a particular subject matter* [Teacher B].

Teacher C also gave a summative description of assessment by giving a brief explanation as follows:

> *Assessment in ECE is there to tell what a child knows so that you can give a report on how he/she is performing academically in all subjects* [Teacher C].

Meanwhile teacher D gave a more detailed description of assessment in ECE which could either be summative of formative depending on assessment strategies employed. This is what she had to say:

Assessment in ECE is conducted in order to evaluate child development and children's ability to learn various concepts in different subjects. Assessment in ECE does not focus on how each child performs in written tests but rather focuses on how each child is developing in all developmental milestones [Teacher D].

On the other hand, teacher E described assessment from a formative point of view by saying that:

Assessments in ECE are administered to children in very small groups or individually so that the teacher can know how each child is developing and learning [Teacher E].

However, teacher F gave a very precise description on how she understood assessment in ECE by pointing out that:

Assessment in ECE education could either be summative or formative [Teacher F].

Meanwhile, teacher H described assessment from a readiness point of view by explaining how teachers assess children's capabilities before they are enrolled in ECE Centres. This is what she had to say:

In ECE Centres, children are assessed before they are enrolled to check whether they are ready to start ECE. We do this by giving the children some simple tests so that we can have an idea what they know depending on their age group. We also try to engage them in a conversation to test their linguistic skills and their ability to communicate in case they want something, or they want to go the toilet. A child who gets below average is not enrolled [Teacher H].

The findings revealed that teachers understood what constituted summative/formative assessment and readiness tests in ECE Centres despite

exhibiting little understanding on what was prescribed on assessment in the revised ECE curriculum. The next presentation looks at how teachers learned to assess children in ECE.

4.4.4 How teachers learned to assess children in ECE

The study sought to establish how teachers learned to assess children in ECE because the responses could provide insight into why teachers assessed children the way they did. Therefore, teachers were asked to tick against what was applicable from the multiple optional responses in the questionnaire regarding how they learned how to assess children in ECE. The findings revealed that out of the 102 teachers, 66.3% (which was the highest percentage) learned during teacher education while the remainder learned through other means. Figure 4.8 shows how teachers learned to assess children in ECE Centres.

How teachers learned how to assess children in ECE Centres

Category	Percentage
Learned from my supervisor at work.	64.4%
Learned by reading educational books on assessment.	45.5%
Learned from my teaching experience over the years.	34.7%
Learned from fellow teachers on the job.	62.4%
Learned through Continuous Professional Development (CPD).	39.6%
Learned during Pre-service Teacher Education.	66.3%

Percentage of Cases

Figure 4.8: How teachers learned to assess children in ECE Centres

Source: Fieldwork data

4.4.5 Reasons why teachers struggle to effectively assess children in ECE Centres

Furthermore, while different teachers were able to indicate precisely how they learned how to assess children in ECE Centres, the study revealed that out of the 102 teachers, 10.9% indicated that they still struggled assessing children effectively because of limited knowledge on assessment in ECE. In addition, out of 102 teachers, 7.9% of the teachers indicated that they still struggled with assessment because in their opinion, pre-service teacher education did not adequately prepare them for assessment tasks. The researcher sought to establish reasons why teachers could struggle to assess children

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because the assumption was that teachers were expected to be able to assess children without any struggle.

4.4.6 Head teachers' understanding of assessment in ECE

The study sought to investigate how head teachers understood assessment in ECE, considering that they held supervisory positions that could influence assessment practices in ECE. The findings revealed that some head teachers did not fully understand how teachers implemented summative and formative assessment to track, measure, and document children's development and academic learning in ECE Centres due to various factors. However, most head teachers understood assessment from a summative point of view, yet that is not the only assessment approach. During the one-to-one interviews, this is what head teacher B had to say:

> *I think you will bear with me; I am not very conversant with ECE because that is not my area of specialisation, but I believe Assessment in ECE is about testing the children's reading, writing and arithmetic skills at a very basic level* [Head teacher B].

When head teacher C was asked the same question in a separate interview, this is what he said:

> *Assessment is the act of administering tests to measure how much children have learnt from the work given. However, I recently attended a workshop where we were being oriented on this revised ECE curriculum and we were told the children should be tested but instead, the teachers should use a special tool designed by the Ministry of General Education. Anyway, the ECE teacher knows better because I was with her, and you will do well to get more information from her* [Head teacher C].

Head teacher D said:

> *Assessment for children in ECE has to do with examining not just their intellectual abilities but how they are growing and developing. As a result, we have a unique special way in which we assess the children in this school* [Head teacher D].

When probed to explain the unique ways in which they assess the children at their Centre to determine children's developmental progression, head teacher D explained that they used checklists for different age groups. However, they mainly made sure that they administered the tool whenever children must transition from pre-school to primary school. This is what he had to say:

> *Well, we have designed some checklists for all age groups from two years to six years. We administer them when we expect the child to transition from pre-school to primary* [Head teacher D].

When some head teachers were asked whether their teachers also administered mid-term tests and end of term tests besides using the checklists, head teacher A responded in affirmation and said:

> *Yes, they do. mid-term tests are used to assess reading, arithmetic and writing skills* [Head teacher A]*.*

The findings revealed that head teachers had a slightly different understanding of assessment in ECE compared to teachers. The next presentation is an interpretation of the revised ECE curriculum by head teachers.

4.4.7 Interpretation of the revised ECE curriculum by head teachers

The study sought to establish how head teachers interpreted the revised curriculum during interviews. The aim was to ascertain whether head teachers were able to interpret the content of the revised ECE curriculum and if at all they were able to check whether teachers were conducting assessment as prescribed in the revised curriculum. Head teacher A was of the view that teachers were able to conduct authentic assessment because they were trained. This is what he had to say:

> *I think there are well able because the teachers we have are all trained in ECE* [Head teacher A].

Head teacher B had this to say:

> *It just depends. Our teacher had challenges writing child-centered lesson plans and conducting effective assessments using the revised ECE curriculum until she attended a workshop on the use of the revised curriculum*
> [Head teacher B].

Head teacher C felt restrained to say anything because he felt that he was not an expert in ECE hence reserved his comments and this is what he said:

> *Well, I am not an expert in this field, and it is very difficult for me to tell whether the teacher is capable or not* [Head teacher C]*.*

Meanwhile head teacher D had this to say:

> *My teachers have no problem interpreting the revised ECE curriculum, but I have noticed that most teachers who come for teaching practice, often face challenges interpreting it. It takes a lot of orientation for them to understand* [Head teacher D].

The interviews with head teachers revealed that most of them had limited knowledge of ECE hence relied on the teachers in ECE to teach and assess children according to what is prescribed in the curriculum. In their opinion, teachers were trained in ECE hence were better placed to interpret the curriculum.

4.5 Standardised assessment tools used by teachers in ECE Centres

The study sought to ascertain whether teachers used standardised assessment tools for assessment in ECE Centres. Teachers were asked to tick against the tools that they used for assessment in their respective ECE Centres from a list provided for them. In cases where the options were limited, there was a provision for anyone to add what might not have been listed. The study revealed that not all the 102 teachers used standardised assessment tools for assessment in ECE Centres. Only 38 teachers out of 102 indicated that they used standardised assessment tools. Thus, the *Panga*

Muntu Test (PMT) showed a frequency of eight out of 38, Zambian Child Assessment Test (ZamCAT) showed a frequency of three, The Child Assessment Tool for Zambia (CDATZ) was the highest with a frequency of 25. The Ages and Stages Questionnaire (ASQ-3) Third edition showed a frequency of one whilst one more additional tool was named "Phonemic Awareness Board" was added by one of the teachers. Details are illustrated in Figure 4.9.
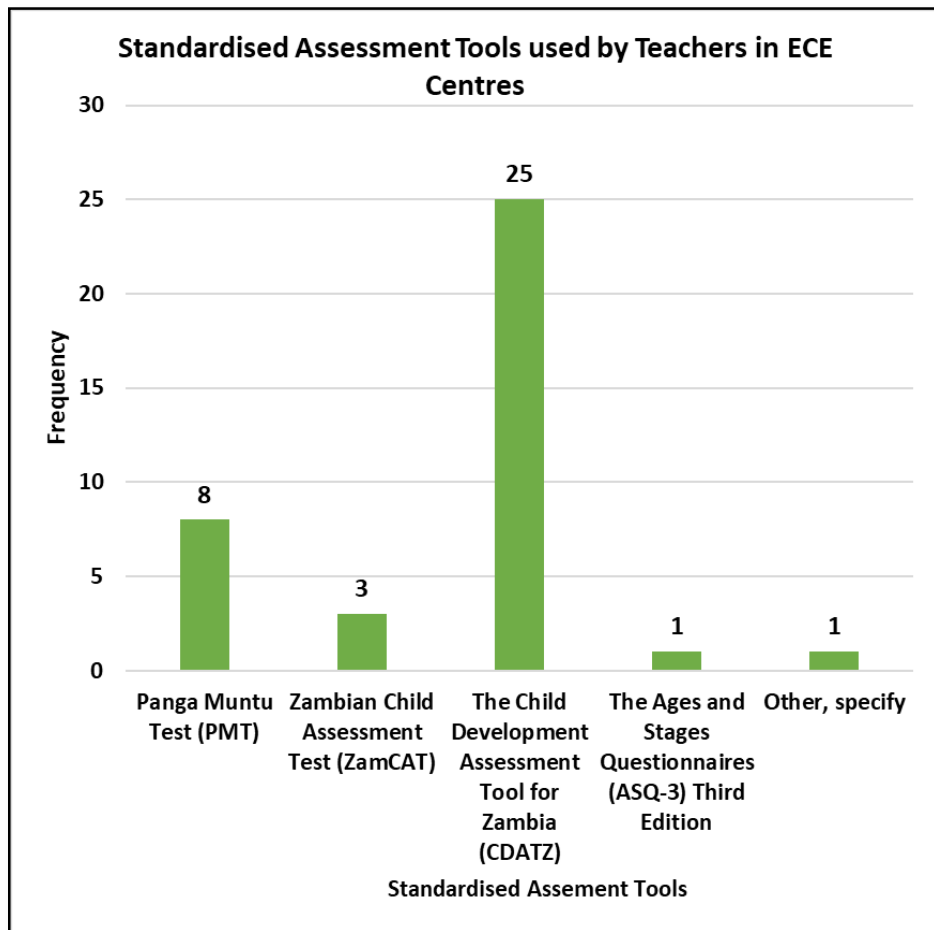
Figure 4.9: Standardised assessment tools used by teachers in ECE Centres

Source: Fieldwork data

4.5.1 Reasons for not using standardised assessment tools in ECE Centres.

The study sought to establish why some teachers did not use Standardised Assessment Tools to assess children in ECE Centre. Possible reasons were outlined for teachers to tick from, although there was also a provision to add what could have been applicable. The findings revealed that among the reasons presented, the first reason with the highest frequency rate recorded was 36 (I have never seen any of them), followed by 25 (lack of knowledge on how to use them) and the least was three (There are not easily accessible). These results suggest that the use of standardised assessment tools in ECE Centres was deficient.

4.6 The extent of teachers' knowledge about principles that guide assessment in ECE

In order to answer objective number two, which was to: "Examine to what extent teachers were knowledgeable about principles that guide assessment in ECE." The theme on the extent of teachers' knowledge about principles that guide assessment in ECE and principles guiding assessment in ECE were explored. After that, an independent t-test was performed to compare the teachers' scores on principles that guide assessment in ECE to determine whether there were differences in teachers from public and private ECE Centres regarding how knowledgeable they were about principles that guide assessment in ECE.

4.6.1 The extent to which teachers were knowledgeable about principles that guide Assessment in ECE

In order to examine to what extent teachers were knowledgeable about principles that guide assessment in ECE, teachers were asked to answer twenty descriptive questions related to principles that guide assessment in ECE. In addition, teachers were expected to tick against whether the statement was true or false. A percentage score of 60% and above was assumed to be acceptable, although any score above 70% was rated highly, signifying a good understanding of principles that guide assessment in ECE. The results showed that about 74 teachers scored above 60%, with approximately 57 teachers

scoring above 70%, suggesting that teachers were knowledgeable about the principles of ECE assessment. Details of the findings are shown in Figure 4.10.
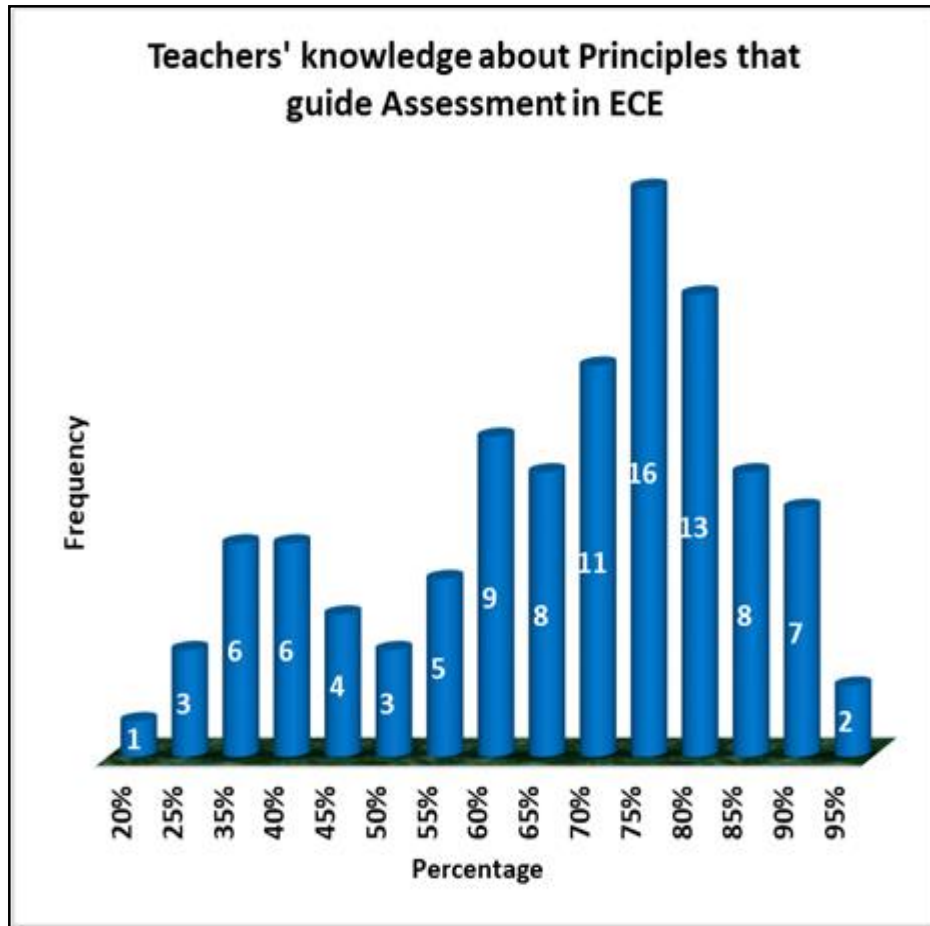
Figure 4.10: Teachers' knowledge about principles that guide assessment in ECE

Source: Fieldwork data

4.6.2 Principles of assessment teachers strictly followed when assessing children in ECE

The study sought to establish the principles of assessment that teachers strictly follow when assessing children in ECE Centres to understand better what teachers prioritise whenever they conduct an assessment in ECE Centres. The data obtained could help inform remedial interventions and instruction. A list of ten principles that guide assessment in ECE was listed. Teachers were asked to tick against the principles of

assessment that they strictly follow when conducting assessments at their respective ECE Centres. The results revealed three principles with a high frequency. These were 'consideration of a child's age and content of task' (79), 'consideration of the developmental capabilities of a child' (77) and 'consideration of use of familiar materials when engaging children in an assessment task' (75). The details are shown in Figure 4.11.

Principles of Assessment Teachers strictly follow

Principle	Frequency
Respect the child's unwillingness to perform a task or take a test.	27
Consider the developmental capabilities of a child.	77
Consider a child's age and context of task.	79
Combine multiple approaches of assessment.	53
Use familiar materials when engaging children in a task.	75
Documenting what is observed when children are in their comfort zones.	13
Consider the children's individual interests and daily activities.	45
Consider the individual children's cultural backgrounds and languages.	26
Incorporate children's views when conducting assessment.	14
Collaboration with families when conducting assessment	21

Figure 4.11: Principles of assessment teachers strictly followed

Source: Fieldwork data

In addition, when teachers were asked during FGDs on the principles of assessment they considered when conducting assessment, the findings revealed that teachers

considered; age of the child, multiple assessment approaches and capability of the child although most of them indicated that they rarely collaborated with parents. Teacher D had this to say:

> *I consider the child's age and what the child can do according to his intellectual ability* [Teacher D]*.*

Teacher E said:

> *I ensure that I assess children on things that I have taught them and according to their age* [Teacher E]*.*

Teacher F had this to say:

> *I use different approaches of assessment to assess the pupils for me to get a true picture of how they are performing* [Teacher F]*.*

When the researcher probed for more information on how teachers collaborated with parents when conducting assessment. The findings revealed that the collaboration teachers were often involved in was either at the enrolment stage, when implementing readiness tests or when children were given homework, and the parents were required to give feedback on how the child had done the homework. Teacher B responded by saying,

> *It is rare that I involve parents. I get to involve them when they want to register their child at our centre. We administer readiness tests at our Centre and a parent needs to be present when the child is doing the activities so that he/she can see how the child is performing and if need arises, provide support that is needed* [Teacher B]*.*

Teacher G had this to say:

> *As for me, I rely on the homework feedback. I read the parents comments on how they observed their child do the work and then I know how to adjust my assessment strategies* [Teacher G]*.*

Meanwhile Teacher A said:

The only strategy in place for collaboration now is homework but it is equally proving to be a huge challenge because most parents do not help their children with homework. Even when you speak to them, they do not seem to care [Teacher A].

The next presentation shows Independent T-Test results of teachers' knowledge level on principles that guide assessment in ECE Centres in public and private ECE Centres.

4.6.3 Independent T-Test results of teachers' knowledge level on principles that guide assessment in ECE Centres in public and private ECE Centres

In order to determine whether there were differences in teachers from public and private ECE Centres regarding how knowledgeable they were about principles that guide assessment in ECE, an independent t-test was performed to compare their scores on principles that guide assessment in ECE. Results showed that teachers from public ECE Centres had a higher average score than teachers from private ECE Centres (Group Statistics). However, under both the assumption of equal variance in public and private ECE Centres and non-equal variance assumption, the p-value was greater than 5%, suggesting no significant difference between the two groups. Therefore, the results showed no sufficient statistical evidence to suggest a difference in the teachers' knowledge level on principles that guide assessment in ECE. Table 4.1 is an illustration of the details of the results.

Table 4.1: *Results of teachers' knowledge level on principles that guide assessment in public and private ECE Centres*

Variable	Type of ECE Centre	N	Mean	SD	T	Df	p
Teachers' knowledge level on principles that guide assessment in ECE.	Public	26	71.35	15.268	1.803	100	.074
	Private	76	64.01	18.691	1.991	52.597	.052

Source: Fieldwork data

4.7 Challenges experienced by teachers in early childhood assessment

Objective number three sought to: "Establish challenges if any, experienced by teachers in early childhood assessment." The following themes were investigated: description of teachers' personal challenges experienced in early childhood assessment; total number of teachers who received in-service training/CPD; nature of in-service training teachers have attended, readily available documents in ECE Centres, documents read by respondents from a list of the readily available documents and last but not the least; and, improving teachers' assessment skills through capacity building in ECE Centres.

4.7.1 Description of teachers' personal challenges experienced in early childhood
       assessment

When the teachers were asked during FGDs to describe challenges if any, which they had experienced in early childhood assessment. The findings revealed that teachers experienced a number of challenges among other things, lack of in-service training on interpretation of the revised ECE curriculum on assessment; lack of sufficient time to conduct authentic assessments; restrictions on how to conduct assessment imposed by

head teachers; pressure from parents to conduct assessments that were formal; lack of standardised assessment tools, and last but not the least; and, lack of required resources such as play equipment including basic things like box files, paints, crayons, building blocks and assorted toys for use for use in assessment tasks.

Teacher A for example, described her challenge by saying:

> *I have not been oriented on how to use the revised ECE syllabus. Ah! The struggle is real* [Teacher A].

In affirming what teacher A had said on lack of in-service training on the use of the revised ECE curriculum, teacher E had this to say:

> *I have a complaint. Some of us do not attend workshops but the same people are often invited to attend these workshops. I wish I could also attend a workshop on the orientation of the new syllabus. I cannot lie to you; some things in the revised ECE curriculum require some explanation on how you can assess the learners after you have taught them. Anyway, "nichalo chakayena" (That is how this world is)* [Teacher E].

On the other hand, teacher C also identified time structural factors as a challenge to authentic assessment in ECE. In most cases, teachers were required to strictly follow the class timetable as noted in the following comment:

> *Some assessments require a lot of time to administer meanwhile when the timetable has been made, you are expected to strictly follow it to the later or else you might be labelled lazy* [Teacher C].

Meanwhile, similar comments were made by teacher D who suggested that insistence by their supervisors to strictly follow the timetable, made some of them to avoid using multiple assessment strategies that take a lot of time to implement, to avoid punitive measures being taken against them. This is what teacher D said:

> *When the timetable has been made, you are expected to strictly follow it. As a result, you find yourself using the same assessment strategies that are not time consuming to avoid being scolded by the supervisor for failing to follow the timetable* [Teacher D].

As for teacher E, she explained that the challenges she experienced were propagated by the head teacher who lacked basic understanding of ECE and the programming system in ECE. As a result, the head teacher could not understand why she taught the way she taught and why she assessed children the way she did. This is what teacher E had to say:

I am restricted on how to assess the children by the head teacher. He insists that l use the same approaches as those who teach in the primary section use. I have no choice but to follow what he says [Teacher E]*.*

Teacher F presented yet another problem faced by the teachers in ECE Centres when conducting the assessment was related to how parents wanted their children to be assessed. Some parents wanted their children to be subjected to formal assessments. This is because they found it easy to tell how their child was performing from the marks obtained as opposed to informal assessments that some teachers opted to use in some cases. The following were the comments by teachers:

There is pressure from parents to conduct formal assessments. One day, a parent found me with the children watching a cartoon and he started shouting at me that l was a lazy teacher who could not perform my duties as a teacher. I was very disappointed because this is a parent l held in very high esteem, but it seems he has little understanding of assessment in ECE and a good number of them are like that [Teacher F]*.*

In addition, teacher G expressed concern on how sensitisation and orientation on the use of the Child Development Assessment Tool for Zambia (CDATZ) in ECE Centres were being done and yet the tool is one of the standardised assessment tools that teachers in ECE Centres are required to use for assessment besides other assessment strategies. Although officials from the Ministry of General Education emphasized using CDATZ, the tool was not accessible and readily available. Teacher G had this to say:

Although the Ministry of General Education people keep emphasizing that teachers in ECE Centres should use the Child Development Assessment Tool for Zambia (CDATZ) to assess the children, this same tool is not available and some of us do not even know how to use it [Teacher G]*.*

Meanwhile, for teacher H, despite having been given the CDATZ by her their head teacher, one teacher explained how she could hardly use the tool because she did not understand how to use it. Perhaps, this signified a lack of orientation on how to use the named tool. This is what she said:

> *I remember being given the Child Development Assessment Tool for Zambia (CDATZ) by my head teacher, but I am not using it because I do not know how to use it* [Teacher H]*.*

Another challenge that teachers experienced was attributed to lack of essential materials for successful assessment implementation in ECE Centres. Teacher J had this to say:

> *The resources required to conduct authentic assessments are not readily available. For instance, most of our ECE Centres do not have play equipment, including basic things like Box files, paints, crayons, building blocks and assorted toys. It is very difficult to use multiple approaches when conducting an assessment when these things are not there* [Teacher J]*.*

4.7.2 Total number of teachers who received in-service training/CPD

The study sought to establish the total number of teachers who had received in-service training or Continuous Professional Development (CPD) from when they started teaching. This was because "the foundation laid in pre-service programme maybe sound and adequate as a start, but it is not sufficient for life" (Ministry of Education, 1996:115). This suggests that teachers must go for in-service training and participate in CPDs to be up to date on the latest developments in the curriculum and new trends in the education sector. The understanding was that failure to do so might limit the teachers' knowledge and skills, causing them to be ineffective in teaching and assessing children in ECE Centres. For this reason, the study sought to ascertain whether teachers received in-service training or participated in CPDs to sharpen their assessment skills. The study findings revealed that not all the teachers received in-service training because only 62 (60.8%) teachers out of 102 had received some form of in-service training or CPD as shown in Table 4.2 below.

Table 4.2: *Total number of teachers who have received in-service training*

Variables	Frequency (n= 102)	%
Have you received any in-service training or CPD training since you started teaching?		
Yes	62	60.8
No	37	36.3
No Response	3	2.9
Total	**102**	**100**

Source: Fieldwork data

4.7.3 Nature of in-service training teachers have attended

In order to ascertain the nature of in-service training teachers had attended from the time they started teaching, they were asked to tick against what was applicable from a list provided. Provision was made for them to write down any additional responses. This exercise aimed to ascertain whether teachers had been oriented on the revised ECE curriculum. Further, it was hoped that the information obtained could provide insight into the gaps that need to be addressed in ECE Centres associated with in-service training. The findings revealed that out of the 62 teachers who agreed having attended in-service training; only 29 (46.8%) had attended in-service training on the use of the Zambian revised ECE curriculum less than half the total number of teachers who attended in-service training. The number was relatively low considering there was need to orient teachers on the new curriculum. However, a good number of teachers 55 (88.7%) out of 62 teachers had attended in-service training on teaching methods in general whilst 52 (83.9%) out of 62 teachers had attended in-service training on classroom management. Detailed information on nature of in-service training teachers have attended is shown in Table 4.3 below.

Table 4.3: *Nature of in-service training teachers have attended*

Nature of In-Service Training Teachers have attended	n= 62	
	f	%
The use of revised Zambian ECE curriculum	29	46.8%
Methods of Assessment & Evaluation in ECE	36	58.1%
Teaching Methods in ECE	55	88.7%
Curriculum development	28	45.2%
Child development	41	66.1%
Child Psychology	36	58.1%
Classroom Management	52	83.9%
Children's Rights	39	62.9%
Professionalism & Teacher Registration in Zambia	27	43.5%
Other	8	12.9%

Source: Fieldwork data

4.7.4 Readily available documents in ECE Centres

Teachers were asked to tick against what was applicable among the listed important documents to show which were readily available at their respective ECE Centres because the documents provided relevant information that could guide assessment in ECE Centres. The assumption was that, if the documents that guide assessment in ECE Centres were readily available, teachers could have easy access to them; hence, they were likely to become more knowledgeable on what was required of them to conduct an authentic assessment in ECE Centres. The findings on the frequency rate indicated that out of the 102 teachers who participated in the study, 72 of them indicated that the revised Zambian ECE curriculum was the most available, but 68 of them indicated Teacher's guides in all subjects. In contrast, 26 of them indicated Early Childhood Standards Guidelines, 21 of teachers indicated the Child Development Assessment Tool for Zambia (CDATZ), and 13 indicated Early Learning and Development Standards for Zambia (ELDS) as being readily available. The details are shown in Figure 4.12.
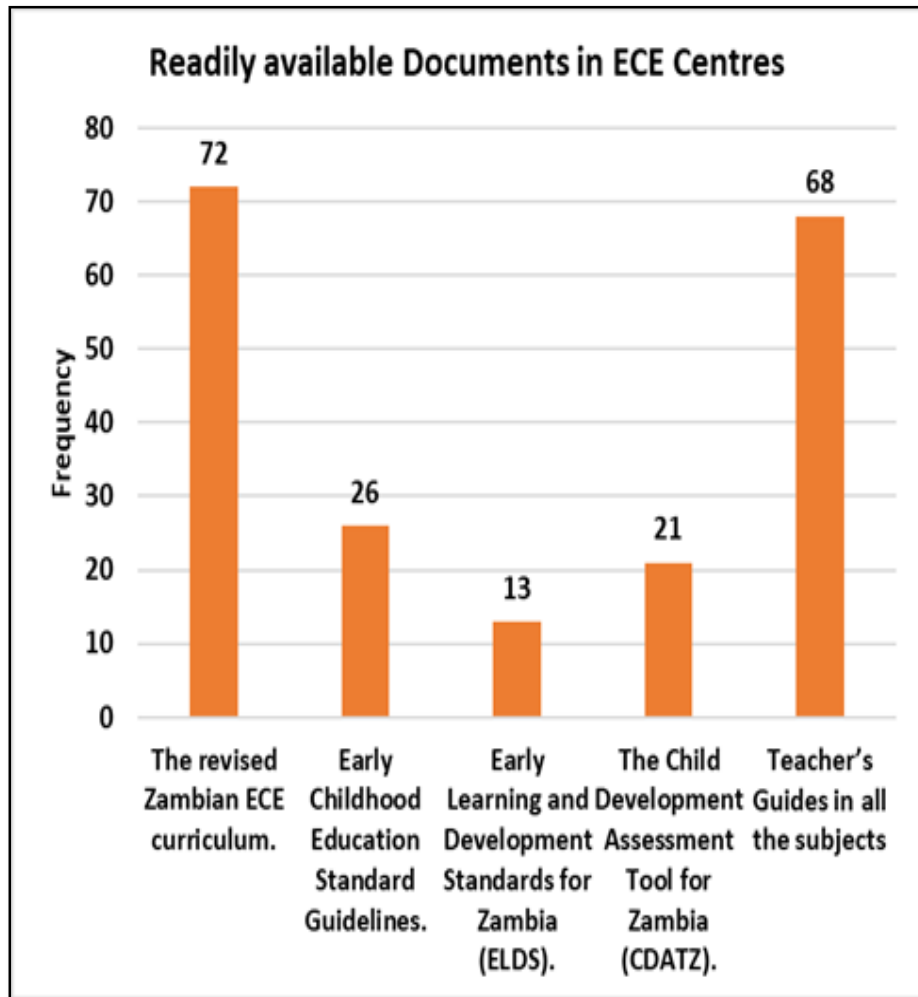
Figure 4.12: Readily available documents in ECE Centres

Source: Fieldwork data

4.7.5 Documents read by respondents from a list of the readily available documents

The study sought to establish whether teachers read the readily available documents at their respective ECE Centres. The aim was to understand how teachers benefited from such literature and how the information obtained influenced the teachers' assessment practices in ECE. Therefore, teachers were asked to tick against the documents they had read from the list provided. Out of the 102 teachers that participated in the study, the findings revealed that the teacher's guide in all subjects had the highest frequency rate

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at 63, followed by the revised Zambian ECE curriculum at 61, the CDATZ at 22, Early Childhood Education Standard Guideline 13 whilst Early Learning and Development Standards for Zambia were the least read at five. Figure 4.13 shows the details.
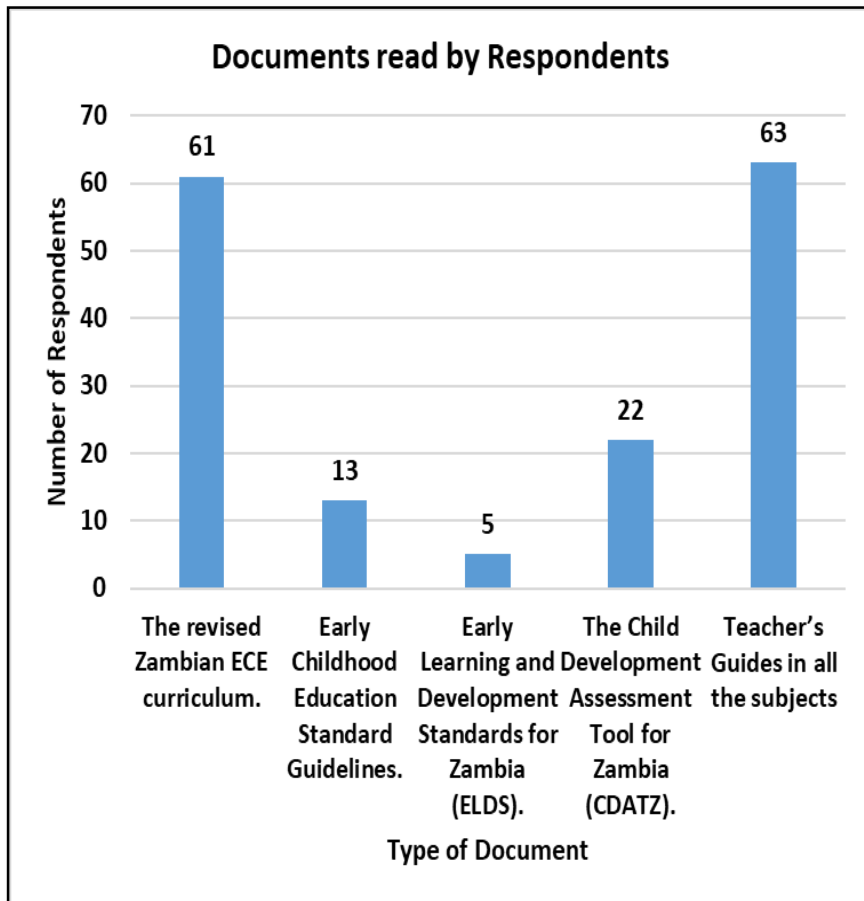
Figure 4.13: Documents read by respondents

Source: Fieldwork data

4.7.6 Improving teachers' assessment skills through capacity building in ECE Centres

When head teachers were asked whether they had any provision for capacity building at their respective ECE Centres concerning sharpening teachers' teaching and assessment skills, head teacher B, said:

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Yes, we do. As a school administration, we ensure that all the teachers at our school attain a certain level of competence before they are assigned a class to teach [Head teacher B].

A response from head teacher C was not very convincing because he was not very specific in his response. For example, belonging to a zone group does not automatically suggest that teachers participated in Continuous Professional Development (CPDs). The following is the remark by head teacher C:

Somehow, we do provide capacity building programmes because the teachers are required to attend CPD programmes. Each teacher belongs to a Zone and these Zones conduct CPDs every term when schools close on various programmes aimed at sharpening teachers' teaching skills [Head teacher C].

However, head teacher D gave a definite response by stating that:

As of now, no, we do not conduct anything for teachers because we are financially constrained [Head teacher D].

Head teacher E clearly indicated that their centres did not have any capacity building programmes although teachers were encouraged to attend workshops at their own expense if such workshops were of benefit to the teachers. This is what he had to say:

No, we do not have any capacity building programme for our teachers, but we encourage them participate in workshops that aim to improve the teaching skills if they are able to meet the expenses because the school does not have enough funding from government for the ECE programme [Head teacher E].

The findings revealed that not all head teachers made provisions for capacity building at their respective ECE Centres.

4.8 Summary of chapter four

This chapter has presented the findings of the study on assessment practices by teachers in ECE Centres. The major findings revealed that teachers' understanding of assessment varied. Most teachers understood assessment as an act of testing children's abilities

from a formal point of view whilst head teachers exhibited little understanding of assessment in ECE. On the other hand, parents were not fully engaged in the assessment process of their children. Furthermore, the findings revealed that assessment practices at ECE Centres were mainly summative and formative although diagnostic and readiness assessments were also being conducted in some of the ECE Centres.

In addition, the findings showed that the most frequently used assessment strategies by teachers for assessment of children's development and academic learning in ECE Centres were homework, paper and pencil test, interview guides and standardised tests. The findings also revealed that teachers were knowledgeable about the principles that guide assessment in ECE and that there was no significant difference in their level of knowledge between those teaching in public ECE Centres and those teaching in private ECE Centres. However, as opposed to taking into consideration almost all principles guiding assessment in ECE when assessing children, the findings have shown that teachers were more inclined to using three principles which are: 'consideration of a child's age and content of the task,' 'consideration of the developmental capabilities of a child' and 'consideration of use of familiar materials when engaging children in an assessment task.

Furthermore, the findings revealed that the challenges experienced by teachers in Early childhood assessment were as follows: Lack of in-service training on interpretation of the revised ECE curriculum on assessment, lack of sufficient time to conduct authentic assessments, restrictions on how to conduct assessment imposed by head teachers; pressure from parents to conduct assessments that were formal, lack of standardised assessment tools, and last but not the least, lack of required resources such as play equipment including basic things like box files, paints, crayons, building blocks and assorted toys for use in assessment tasks.

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Overview

This chapter discusses the findings and their implications on assessment practices used by teachers in ECE Centres. The study sought to establish the assessment practices used by teachers in ECE Centres in order to have a clear understanding of how teachers track, measure and document the progress of children's development and academic learning in ECE Centres. The study's findings are discussed in line with the research objectives, which generated three questions: What are the assessment practices used by teachers in ECE Centres? To what extent were teachers knowledgeable about principles that guide ECE assessment? What challenges, if any, do teachers experience in Early Childhood Assessment? Further, themes that emerged from the literature review in line with the research objectives have informed the discussion of findings. Finally, the findings in terms of theoretical and conceptual frameworks have been discussed to show how relevant they were in guiding this current study.

5.2 What are the assessment practices used by teachers in ECE Centres?

This question addresses the first objective aimed at describing the assessment practices used by teachers in ECE Centres. The study results have shown that besides assessment being summative and formative in ECE Centres, diagnostic and readiness tests were also being administered in selected ECE Centres in Lusaka. Teachers' wide range of assessment practices have been exemplified to show how teachers track, measure, and document the progress of children's development and academic learning in ECE Centres.

5.2.1 Assessment of learning (Summative assessment)

It was clear from the study that summative assessments conducted in ECE Centres in Lusaka were, mid-term tests, end of term tests and readiness tests and Diagnostic tests (see Figure 4.1). The study showed that summative assessments in ECE Centres were

often conducted using formal assessment methods. The test items were often taken from the content teachers taught in class regarding the mid-term and End of Term tests. The content was not just drawn from the revised ECE curriculum, the researcher discovered that teachers used information from the internet and other ECE resource books. Perhaps this explains why teachers recorded the results of the assessment tasks symbolically by signalling the child's relative position in comparison with other children by indicating the child's position in that class on the Report Form/Card. Meanwhile, this is contrary to what is prescribed in the revised curriculum (MESVTEE, 2013) on assessment practices. However, it affirms what the conceptual framework suggests that the teacher's knowledge in early childhood assessment is likely to influence the assessment practices by teachers in ECE. These findings were consistent with what Melaku and Tadesse (2019) reported that teachers experienced assessment challenges ranging from a biased comparison of children, labelling of children as failures by emphasizing on the norm, focusing on few domains of children's development when conducting an assessment, to using the assessment results for promotion instead of the results to inform teaching and learning.

Furthermore, a critical analysis of the teachers' assessment strategies revealed that teachers to a large extent also used performance assessments that were in line with the content they taught and according to their knowledge in early childhood assessment. The performance assessment tasks given to children include activities such as; fixing numbers, letter and word puzzles, filling in the blank spaces, and identifying phonemes. These activities focused more on assessing developmental domains. As a result, children performed more activities that developed cognitive skills, linguistic skills, fine motor skills, and social skills while performing arithmetic, reading, and writing tasks. These findings were similar to what Rethza and Jamaluddin (2010) found in Malaysia's Early Childhood Education Centres. Meanwhile, such a situation implies that certain areas of child development are rarely stimulated. The possibility of lagging in other domains such as gross-motor and aesthetic skills may be high.

While the revised ECE curriculum suggests that children should not be subjected to a formal written examination after finishing the work for each age group, teachers did the opposite. Based on what was reported by teachers during FGDs, it seems administering formal tests was preferred by most parents because the children's performance could easily be graded. Most parents reportedly got disappointed when receiving report forms/cards that did not indicate their child's position in class after writing end of term tests. In fact, teachers who tried to be consistent with what is prescribed in the revised curriculum were often perceived to be lazy by parents because they invariably engaged children in more play activities than their counterpart teachers.

This situation might indicate the absence of a proper communication system between teachers and the parents and yet parents need to fully understand and appreciate how teaching and assessment of children in ECE Centres have transitioned to a more sociocultural approach. It is as though parents are not part and parcel of the assessment process, yet they play a vital role in assessment in ECE. Suppose nothing is done to correct the situation, in that case, ECE Centres risk losing the focus of early child assessment as was the case with some Early Childhood Care and Education (ECCE) in Japan reported by Kitano (2011). The latter cited commercialism and high expectations from parents, having compromised how the assessment was conducted in their ECCE. Furthermore, seeing that teachers were conducting summative assessments in the manner they did could indicate that teachers have not transitioned from the use of formal approaches of teaching that require formal assessments prescribed in the old ECE curriculum.

Regarding diagnostic assessments, the study has shown that a small number of teachers (see Figure 4.1) administered diagnostic tests in their respective ECE Centres although the procedure used was not clear. For instance, while 46 teachers, out of 102 acknowledged enrolling children with special educational needs at their respective ECE Centres, it was not clear whether integrating children with special educational needs in the mainstream at ECE Centres compromised how the assessment was conducted. What

was evident is that teachers experienced some challenges when conducting assessment in ECE Centres. The challenges were activated by lack of proper infrastructure, unavailability of suitable teaching and learning materials and lack of trained special education teachers. This finding was consistent with what was reported by Banja and Mandyata (2018) asserting that integrating children in the mainstream at primary schools was a challenge due to inappropriate infrastructure, unsuitable materials and insufficiently qualified personnel in the schools. This implies that such circumstances have the potential to hinder the children's development and academic learning and yet all things being equal, the school should be a place where children should thrive developmentally and academically.

Furthermore, although some of the children with special education needs continued learning at some of the ECE Centres for purposes of inclusion in the mainstream (ECE Centres), the researcher observed that some children were seemingly experiencing challenges adapting. When teachers were asked why they could not recommend some of the children to be enrolled in special schools, teachers explained that some parents were in denial of their children being differently abled, thereby not taking them to a particular school. As a result, there was little that could be done for fear of being cited for discrimination and losing business in the case of private ECE Centres. However, if nothing is done about such cases, many children might continue lagging developmentally and academically, yet help is readily available.

Regarding readiness tests, the evidence presented from the study showed that although a number of parents, 79 (63.2 %) out of 125 parents, agreed that their children were subjected to a readiness test before being enrolled, less than half of that total number were fully informed what the readiness tests were about, and yet parents were supposed to be well informed because they are an important source of information regarding their children's development and learning. Given that most parents were not told what the tests were all about, it is most likely that parents did not participate in the assessment process of their children. As a result, the implication

is not known except, it defeats the purpose of ascertaining a child's readiness for an ECE programme. Consequently, this implies that there was a possibility of children being placed in a wrong programme or denied a place, and yet they had met the required minimum requirements, a situation Washington State (2008) describes as misuse of readiness tests at entry into an ECE Centre in most societies. Notably, most ECE Centres prepared their own readiness tests, although the Child Assessment Tools for Zambia could be used for assessment of school readiness (Curriculum Development Centre, 2014 a).

5.2.2 Assessment for learning (Formative assessment)

The study showed that formative assessments in ECE Centres were often conducted using informal assessment methods. Dixson and Worrell (2016) acknowledge the importance of formative assessment and suggest that it should be implemented according to its distinctive characteristics if authentic assessment results are to be attained. Therefore, although the study showed that some teachers used assessment for learning (formative assessment) to collect and use assessment information to adjust their instruction to children's individual needs, inconsistencies were observed in the manner teachers conducted formative assessment. As a result, in some cases teachers collected insufficient information regarding children, hence could not inform their subsequent planning in the best interest of children's development and academic learning.

For example, although the study showed that teachers sometimes used informal assessment methods in selected lessons, most teachers rarely utilised multiple assessment approaches in ECE Centres. Moreover, they offered very minimal support to the children during the assessment process. This is against the premise that formative assessments demand collecting a wide range of data that teachers can use to modify the learning work for the children. Of equal importance, teachers are expected to provide the necessary support that individual children need to accomplish the given task. In

addition, teachers failed to link their assessment strategies to the revised ECE curriculum, which was attributed to a lack of orientation on the revised ECE curriculum.

It can therefore be stated that most teachers did not adhere to the actual norms of formative assessment. To a large extent, one may not be wrong to suggest that formative assessments in ECE Centres were reduced to what appeared to be a series of tests that resemble formative assessment. These findings are consistent with what Black and Wiliam (1998) reported that teachers' formative assessment is not well understood and is weak in practice. Hence, asserting that "classroom evaluation practices generally encourage superficial and rote learning, concentrating on recall of isolated details, everyday items of knowledge which pupils soon forget" (Black and Wiliam, 1998:17). If this is the case, then there is a need for teachers in ECE Centres to address the gap in the best interest of children's development and academic learning.

5.2.3 Assessment strategies used by teachers to assess children's development and academic learning in ECE Centres.

Although teachers reportedly used different assessment strategies to assess children in ECE Centres, the study showed that the most frequently used assessment strategies rated by 102 teachers were homework (101), paper and pencil tests (99), interview guides (95) and standardised tests (87). It is worth noting that the rating of homework as the most frequently used assessment in ECE Centres was confirmed by parents who participated in the study (see Figure 4.4). For instance, out of the 125 parents, 120 acknowledged that their children went with homework at home although teachers seemingly did not use homework to inform their classroom instruction. This is contrary to what Cooper (2007) suggests that homework should consolidate or reinforce classroom teaching and learning, assist in the process of formative assessment, assist teachers in determining and revising their planning and assist in the process of creating partnerships with home, which could lead to more educational success.

Apparently, little was done to put in mechanisms that could strengthen the intended aims of homework. This confirms what Vatterott (2009:120) states that "Teacher and individual classrooms around the world are taking steps to deemphasize the grading of homework as evidence in the following trends: some schools are not allowing homework to be counted in the grade." For example, in this current study, some teachers did not even mark the children's homework. For some children who did not do their homework, no follow ups with parents were made to ascertain the reasons why parents did not help their child with homework.

In fact, in some cases there was no proof of the parents or any adult having helped the child with homework. This is because some of the children's work were brought back to the ECE Centre without the parents commenting on the child's work or endorsing a signature as is the norm in some ECE Centres to confirm parental participation. Partin (2009:163) admonishes and recommends that "Such negative attitudes will not benefit either the teacher or the students. The first week of school must establish a fair and consistent homework policy." The assumption is that when parents or guardians give feedback on the child's work, it becomes easy for the teacher to know how the child can be helped if the child is not performing as expected. As long as nothing changes with regards to how teachers administer homework in ECE Centres, the exercise will simply be there for formality purposes with little or no benefit to children's development and academic learning.

Regarding the paper and pencil tests, the study showed that teachers preferred this strategy because it was easy and quick to assess children since it did not consume a lot of time and was objective. Nevertheless, the weakness of this approach is that there is very little room to provide scaffolding by a more knowledgeable person as anticipated in the sociocultural theory. This finding was consistent with what Kotor (2014) found in Ghana that paper and pencil test was one of the modes of assessment used by teachers in ECE Centres. Further, although Interview guides were also mostly used in the assessment of children in ECE Centres, they were not properly administered. The

approach is more effective when the teacher interviews the children one by one as opposed to what the researcher observed where group interviews were prominent in most ECE Centres in Lusaka.

Furthermore, although standardised assessments, particularly mid-term tests and end of term tests, were extensively used in ECE Centres, they were employed against what is prescribed in the ECE curriculum. Meanwhile, some parents were pleased to see how their children were subjected to these tests and were glad to receive assessment results that emphasized grading children compared to their peers' grades. This situation appears to have encouraged teachers to continue using mid-term tests and end of term tests to assess children in ECE Centres and yet the practice had very little benefit to the children's development and academic learning. This is because the children's overall grade cannot be a true reflection of the children's individual academic potential. To a large extent, this practice has the potential to demotivate the children. This is in line with what Black and William (1998) postulate that, when the grading function is over emphasized and the learning function under-emphasized, it has the potential to negatively affect the student because the low performing students are likely to be demotivated and lose confidence in their own capacity.

5.2.4 Observation and documentation of assessment in ECE

Regarding observations in ECE Centres, the study has shown that teachers did very little to conduct observations and document what they assessed in ECE Centres. The study found that teachers did not appreciate the crucial role which observation plays in Early Childhood Education. As a result, most assessment strategies implemented by teachers in ECE Centres were formal and those that were informal still adopted characteristics of formal assessments. It was as though teachers were more comfortable implementing assessment practices according to how they perceived the children's academic needs and to what they were accustomed. This could imply that teachers had not transitioned from the old system of assessing children using formal assessment approaches. This finding is consistent with what DeLuca and Hughes (2014) found that how teachers

prioritise assessment in ECE seems to be linked to a wide range of practices teachers use to track children's learning alongside their conceptions of child development. Meanwhile, observation should find a haven in ECE Centres because "Observations help the early childhood education team to extend their understanding about their understanding of children themselves" (Palaiologou, 2012:161).

In addition, the study has shown that most of the teachers (80 out of 102) did not know that observation was an integral part of the ECE programme. Similarly, the remaining 22 teachers equally exhibited little understanding about how assessment should be conducted in ECE Centres (See Figure 4.7). This finding was very unusual because all things being equal, teachers are expected to know what is prescribed in the curriculum regarding assessment of children unless otherwise. Thus, the fact that teachers were not aware of this important information in the curriculum is a source of concern. Perhaps it explains why teachers exhibited an element of assessing children using their teaching experience without considering the revised ECE curriculum which is very different from the old ECE curriculum.

The implications of these findings strongly suggest that assessment in ECE Centres is unsystematically implemented. If teachers do not adhere to the prescriptions of the revised ECE curriculum, they are likely to continue conducting assessments according to their own understanding, resulting in assessment practices that may not support the children's development and academic learning. This affirms what the conceptual framework suggests that the teacher's knowledge in early childhood assessment might influence the teacher's choice of assessment strategies. On the other hand, these findings seem to agree with Nah and Kwak (2011), who reported that some teachers did not systematically implement assessment in ECE settings considering that most of them did not adhere to the prescribed implementation procedures that had been put in place by the government of South Korea.

Regarding documentation of observations, the study showed that teachers did very little to document observations because teachers rarely used observations to assess children.

Teachers were not documenting assessment results. Instead, they used to simply keep records of test results in their teaching files without using the information collected on individual children to inform instruction. Meanwhile, a study by Barrs and Drury (2017) affirmed the relevance of documentation in the Early Years Education services of Pistoia, asserting that documentation provided opportunities for teachers to know the children better. For instance, documentation is believed to have the potential to provide insights into the children's learning process and into teachers' roles.

Furthermore, the study by Barrs and Drury (2017) showed that the regular inclusion of families in documentation, illustrated the collaborative partnerships between schools and homes hence creating a solid foundation of early education in Pistoia. In contrast, this current study has shown that teachers did very little to document assessments. On the other hand, it seems the teachers' failure to document observations was not just unique to teachers in ECE Centres in Lusaka, but the findings seem to be consistent with what was reported by Kati and Jyrki (2017) who reported that, documentation in Finnish ECEC Centres was not yet fully exploited despite documentation being an inclusive method of evaluating and planning in their Finish ECEC curriculum.

The findings were also consistent with what Niles (2016) reported about teachers in New Zealand who focused on documenting children's learning using the learning story framework but had complexities identifying what needed to be documented despite the teachers coming together to discuss children's individual needs. This might be an indication that most teachers have challenges with documentation in ECE. Meanwhile, when there is no record of how a child has been progressing in ECE Centres, it becomes difficult for the teacher to identify areas where the child requires improvement and some help. It becomes practically difficult to plan children's work according to their level of development and their academic ability to learn. The current situation may therefore require consented effort from the teachers' supervisors to ensure that teachers were adhering to what is prescribed in the curriculum. However, although head teachers as supervisors might be better placed to ensure that teachers are adhering to the norms of

assessment and documentation in ECE Centres in Lusaka. However, at the moment, there is little that can be done to correct the situation. This is because most head teachers have limited knowledge regarding early childhood assessment, and they lack the understanding on what exactly is required for teachers to conduct assessments that are authentic.

5.2.5 Standardised assessment tools used by teachers in ECE Centres

The study has shown that the number of teachers who used standardised assessment tools to assess children in ECE Centres (38 out of 102) was very low and yet the tools are helpful in detecting children who may be susceptible to disability and those with special educational needs. In fact, Matafwali and Serpell (2014:92) assert that assessment tools are said to be able to "detect a population of children that are at risk for disability and children with special educational needs, in the diagnosis of conditions affecting optimal development, individualized intervention programme planning, monitoring of developmental progress and evaluation of programmes." Why there is such a low usage of standardised assessment tools in ECE Centres when there is a plethora of standardised assessment tools in ECE is a puzzle. While some teachers may claim that these tools are not easily accessible and that they have never seen any of them, the reason is unjustifiable because some of these tools like the Child Development Assessment Tool for Zambia (CDATZ) is usually available at the Curriculum Development Centre in Zambia unless otherwise. Perhaps a plausible explanation to the low usage of standardised assessment tools in ECE Centres could be attributed to ECE Centres not considering the tools to be a priority.

5.3 To what extent were teachers knowledgeable about principles that guide Assessment in ECE?

This question addresses the second objective. The aim was to ascertain to what extent teachers were knowledgeable about principles that guide assessment in ECE. The results

of the study have shown that teachers were knowledgeable about principles that guide assessment in ECE.

5.3.1 Extent to which teachers were knowledgeable about principles that guide assessment in ECE

The study has shown that teachers were knowledgeable about principles that guide assessment in ECE Centres showing the highest frequency percentage score of 75% (see Figure 4.10). This implies that teachers had a good understanding of what it means to conduct early childhood assessment although it is not a guarantee that teachers would automatically conduct authentic assessment in ECE Centres. In certain instances, teachers may use their early childhood assessment knowledge to be illusive in the way they conduct assessment to avoid implementing assessment strategies that they perceive to be complex and time consuming. As a result, by implementing assessment strategies that are convenient to them, they risk conducting assessments that are compromised and add little value to children' development and academic learning. There is also a possibility that even if teachers were knowledgeable about principles that guide assessment in ECE, it was possible for teachers to misinterpret what was prescribed in the revised ECE curriculum regarding assessment.

Nonetheless, the current study has provided important evidence on how biased some teachers were when conducting assessment in ECE Centres. For instance, some teachers were reported to have been selective when it came to the application of principles of assessment guidelines. Instead of following all of them, in most cases, teachers frequently applied three principles to guide their assessment in ECE Centres. These were 'consideration of a child's age and content of task,' 'consideration of the developmental capabilities of a child' and 'consideration of use of familiar materials when engaging children in an assessment task.' A critical analysis of the teachers' choice suggests that teachers made a deliberate choice to be selective in the way they applied the principles that guide assessment for their convenience. Apparently, teachers were not held accountable for being biased in the way they conducted assessment because their

overall supervisors (head teachers) did not even know that the teachers' assessment practices were being compromised.

While there might be other factors that influence assessment in ECE Centres, the current study has shown that the teachers' choice with regards to being selective on what guidelines to follow subsequently compromised the assessment results in ECE Centres. Therefore, these findings suggest that the teachers' understanding of assessment and how they choose to implement assessment in ECE Centres has the potential to influence assessment results which could either be authentic or compromised. This outcome supports the conceptual framework that suggests that the teacher's knowledge in early childhood assessment influences a particular assessment outcome which could be negative or positive. Whilst teachers in this current study were considered knowledgeable to conduct authentic assessment in ECE, in contrast, DeLuca (2018) found that teachers felt inadequate and needed specific assessment skills and knowledge to effectively conduct assessment.

Further, it must be noted that the results of an Independent Samples T-Test that was conducted to determine whether teachers in public and private ECE Centres had different levels of knowledge on principles that guide assessment in ECE showed that there was no significant difference in their knowledge levels. A plausible explanation could be because teachers that participated in the study were all trained (see Table 3.3). In addition, the teachers had been teaching in ECE Centres for several years and the assumption is that they could have gained more insight on how to conduct authentic assessment through interaction with fellow teachers and perhaps through in-service training.

5.4 What challenges, if any, do teachers experience in early childhood assessment?

This question addresses the third objective. The aim was to establish challenges if any, experienced by teachers in ECE Centres. The study has shown that teachers experienced some challenges in early childhood assessment.

5.4.1 Challenges experienced by teachers in early childhood assessment

From the findings, the study suggests that teachers faced challenges related to interpretation of the revised ECE curriculum on assessment (see Figure 4.7). Teachers clearly exhibited little understanding on what was prescribed in the revised curriculum on assessment. Considering that teachers did not know what was prescribed in the revised curriculum, it compromised how assessment was being conducted in ECE Centres. It should be noted that it is difficult to tell what exactly the cause of such a situation was. However, what is worth noting is that the study findings have shown that some teachers did not scheme the work on their own because the schemes of work were prepared in advance for the teachers by the Head of Section. This implies that teachers may not have interacted with the revised curriculum and that their role was just to prepare lesson plans, teach and assess the children. As a result, if the Head of Section adopted a summative approach in his/her schemes of work, then all the teachers would be required to use summative strategies in their lesson. Consequently, the strategy the teacher chooses to implement, ultimately determines a particular assessment outcome. This supports what the conceptual framework postulates that, the assessment strategies teachers use to assess children ultimately influences a particular assessment outcome.

Although it is difficult to fully understand the teachers' inadequacies regarding assessment in ECE Centres, teachers during FGDs attributed their inadequacies regarding assessment in ECE Centres to lack of orientation on using the revised ECE curriculum, as shown in (Table 4.3). Although this was the status quo, it was not anticipated that teachers could complain of lack of orientation on the revised ECE curriculum because it has been six years since the curriculum was released in 2013 for use in ECE Centres in Zambia. It is not clear why it has taken the Ministry of General Education officials such a long time to find appropriate mechanisms to disseminate information on how to use this important document in ECE Centres. If this is what is obtaining on the ground in a capital city (Lusaka) where the Ministry headquarters (key stakeholders in the dissemination of information) and the Curriculum Development Centre (designers of the curriculum) are

located and yet little has been done to meet the expectations of teachers, then it is a source of concern. In fact, one wonders what could be happening to early childhood assessment in ECE Centres that are in rural Zambia.

Furthermore, the study findings revealed a lack of sufficient time for teachers to conduct authentic assessment which were attributed to fixed timetables that did not leave room for adjustments. As a result, most teachers were obliged to stick to the schedule to avoid being reprimanded by their supervisors. Consequently, this compromised how assessment was conducted and as a result, the assessment results were also compromised because assessments in ECE require adequate time. This finding is consistent with what Navarrete (2015) found, that teachers did not have adequate time to conduct assessments and as a result it had a negative effect on assessment.

In addition, the current study has also shown that restrictions on how to conduct assessment imposed by head teachers was a challenge in ECE Centres. Most head teachers insisted that teachers need to conduct assessments consistent with the approaches used in the primary schools. As a result, this compromised how teachers administered assessments in ECE because the assessment strategies used in ECE, and primary schools are different. While children in primary schools can do most tasks independently, children in ECE need scaffolding from a *More Knowledgeable Other* in most tasks and often learn better through play. It should be realized that the concept of *More Knowledgeable Other* demands that "…learning is facilitated through the assistance of more knowledgeable members of the community and culture" (Lee and Smagorinsky, 2000:231). However, it is this kind of information that most head teachers might have been lacking to understand the distinction between the two groups. Perhaps, the head teachers' insistence could be because most head teachers had little understanding of early childhood assessment because they did not have formal training in ECE (See Table 3.6 and Table 3.7).

Furthermore, this current study has shown that teachers experienced pressure from parents to conduct formal assessments. Parents wanted to see children's performance

that could be interpreted symbolically to signify how children were performing by showing their class positions compared to other learners. It was not so clear why parents really wanted to see the position of their children but perhaps the expectations of parents could have come from their previous experience where that kind of practice used to be the norm. In addition, perhaps to the parents, the position of a child in comparison with other children signified how intelligent their child was.

As a result, some teachers succumbed to the parents' pressure. For example, when some of the teachers tried to implement informal assessment strategies in ECE Centres, some parents were unhappy and often perceived such teachers as lazy and insisted that their children be assessed formally. This finding was consistent with what Kitano (2011) found on parents who reportedly mounted pressure on teachers by insisting that their children progress to primary against the teacher's advice. If parents insist on such demands, it could be an indication that they need some form of sensitization on assessment practices in ECE for them to appreciate the decisions made by teachers on assessment in ECE. Otherwise, as long as there is no proper collaboration between the teachers and the parents' concerning assessment of children in ECE, achieving authentic assessment results may not be possible.

Furthermore, this current study has provided insight into how inefficient the Ministry of General Education has been regarding how they oriented teachers on how to use The Child Assessment Tool for Zambia (CDATZ) in ECE Centres for assessment. Whilst there was advocacy for its use in ECE Centres, the tool was reportedly not available at government institutions such as CDC and the Ministry of General Education headquarters. In fact, the study has shown that only 25 teachers out of 102 have used the CDATZ for assessment in ECE (see Figure 4.9). It is not known why the distribution of a tool purported to be very important and mandatory for assessment in ECE Centres has not been widely distributed. Moreover, once government officials make pronouncements in the Ministry of General Education and yet little is done to enforce

the directives regarding such important decisions, the teachers are likely to have a causal approach towards what is required of them.

In addition, as a result of directives that could not be enforced, this current study has shown that teachers seemed to have received contradictory messages on what exactly was required of them. For instance, some teachers were reportedly unsure whether they must use the CDATZ only for assessment or use both the CDATZ and the revised ECE curriculum. The lack of clarity on the matter left teachers in a dilemma. This finding was similar to what Basford and Bath (2014) found regarding ECE polices about assessment and documentation of assessment in English ECE settings which seemingly contradicted each other and caused a dilemma among teachers. They noted that it was unclear whether teachers needed to follow assessment practices that addressed both scientific discourse of empiricism and a sociocultural discourse, hence leaving teachers in a dilemma. In order to avoid such dilemmas, policy makers and officials responsible for dissemination of information need to be categorical in the way they pass on important information to the implementers to ensure that teachers receive the correct information for them to do what is correct thereby avoiding compromising assessment practices in ECE Centres. Otherwise, the resolutions made by policy makers might be in vain and yet it is intended to benefit the children's development and academic learning.

Furthermore, teachers in the current study wondered why there was so much emphasis on the use of the CDATZ and yet the tool is not available, and some teachers do not even know how to use it. Perhaps this is an indication that there could be a gap that needs to be addressed in ECE Centres regarding dissemination of information to key stakeholders.

Furthermore, the study findings have shown that some of the relevant documents (supplementary materials) that influence assessment in ECE Centres such as the Early Childhood Education Standards guidelines and the Early Learning Development standards for Zambia (ELDS) were not readily available in ECE Centres, instead teachers mainly relied on the use of the ECE curriculum and teacher's guides in all subjects for lesson planning in ECE Centres (see Figure 4.12). However, the consequence of such a

scenario is that it can negatively affect assessment results in ECE. This is because when teachers are not informed on other general procedures in ECE Centres, they are bound to make mistakes and do things according to their own convictions instead of what has been prescribed by policymakers in the designated documents.

Additionally, the study findings have shown that despite some documents being readily available in ECE Centres, several teachers did not take time to read what was contained in the documents hence they had no idea of what exactly was contained in the documents (see Figure 4.13). Perhaps it explains why teachers could not interpret how assessment needed to be conducted despite having the revised ECE curriculum at their respective ECE Centres. However, if this kind of trend where teachers exhibit little interest in reading important documents in ECE Centres continues, there is a high possibility that teachers might continue conducting assessment according to their own understanding. Meanwhile, there are several readily available documents to guide teachers on assessment practices in ECE.

Last but not the least, other challenges teachers experienced in early childhood assessment were lack of required resources such as play equipment including basic things like box files, paints, crayons, building Blocks and assorted toys which hindered the implementation of authentic assessments in ECE Centres. This proved to be a challenge because the curriculum is play-based and some of the named materials are essential for teachers to document assessments and effectively conduct authentic assessments. These findings were consistent with what was reported by Melaku and Tadesse (2019), who indicated that pre-school teachers did not have enough teaching and learning materials to help them implement the early childhood curriculum. Thus, the teachers' concerns in the current study seemed genuine because it was visible in most cases that ECE Centres indeed lacked some of these important materials. As a result, even if a teacher is knowledgeable about assessment and skilled to conduct assessments that are authentic, in the absence of these materials, there is very little that a teacher can do to conduct an assessment that is authentic. As a result, teachers are bound to

collect insufficient information regarding children's development and academic learning in ECE Centres hence defeating the purpose of assessment in ECE Centres.

5.5 Findings in terms of the theoretical framework

In terms of the theoretical framework view, the Sociocultural theory was the most appropriate theoretical lens through which this study could be guided because it provided insight on how children learn through interaction with the environment, observation and listening. Although children enjoyed activities that involved observations like *taking walks* outside the class and observing the weather condition, mixing colour paints and observing how they change, teachers did very little to document what they observed from the children. This implies that it was difficult to track assessments conducted through observations in ECE Centres. Further, the framework has shown how adults and peers known as the More Knowledgeable Other (MKO), influence the formation and development of children's linguistic skills, social skills and cognitive abilities as they interpreted the social-cultural context in ECE Centres. For example, scaffolding was inevitable in cognitive tasks such as arithmetic. When some children could not add numbers abstractly, the teachers often provided them with small objects such as small stones to help them add with less difficulty.

Subsequently, teachers assessed the children's individual development and academic learning based on the scaffolding provided and how the children performed in the given task. This was an affirmation of what the theory suggests that when learners receive appropriate guidance, they thrive in a task that would have been challenging to them. The sociocultural theory has provided evidence that cultural beliefs and attitudes must be critically analysed in early childhood assessment to obtain results that are authentic. For example, when assessing the children's social skills over a period, a six-year-old girl in an ECE Centre could not freely play with peers of the opposite sex in her class. The first assumption by the teacher was that the girl was anti-social until the teacher discovered that in that girl's culture, she was not allowed to play with boys and apparently, there were more boys than girls in that class. It was evident from the teacher's comments in

the child's portfolio that, had she not taken keen interest in knowing more about the child's culture, her assessment of the child's social skills could have been misinterpreted.

As for children's linguistic skills regarding speech, which could be assessed through conversations with individual children and observing the children as they played in solitary or with peers, little was done to observe and document how children played and explored their environment. Similarly, little was done to determine how the children's vocabulary was increasing. Hence it was not easy to detect any deviations in the children's language development in ECE Centres. It seems there were no deliberate measures that were put in place in most ECE Centres to assess children's ability to speak and express themselves categorically. Instead, teachers focused more on assessing three basic language skills: listening, writing, and reading.

Furthermore, asserting what Vygotsky (1978) postulates that cognitive abilities are socially and culturally constructed, it became evident during children's play in ECE Centres that what children said and how they treated their peers resulted from how they were culturally socialized. Similarly, their drawings in subjects like Expressive Art and Social studies reflected what they had either experienced or heard from their parents, guardians, peers and teachers. As a result, teachers were required to take into consideration the social and cultural aspects when conducting assessments in ECE Centres for authenticity purposes.

5.6 Findings in terms of conceptual framework

The researcher has no doubt that the conceptual framework designed on "Assessment practices used by teachers in ECE Centres" has provided the context, guidance, interpretation and understanding of how assessment practices in ECE Centres could either be summative or formative. However, it is worth noting that in addition to what the conceptual framework had projected, the study findings revealed that ECE Centres also conducted diagnostic and readiness tests. However, it was not very clear how diagnostic assessments were conducted because most ECE Centres did not utilize

standardised assessment tools when conducting assessments in ECE Centres. With regards to readiness tests, most ECE Centres prepared their own readiness tests which they administered before enrolment of a child and when children were expected to transition to grade one. This was despite the Child Assessment tool for Zambia having been recommended for use in readiness tests. Perhaps it works to the advantage of most ECE Centres as they have a choice to decide on what to prioritise in their readiness tests. However, if the readiness tests are not standardised, then chances of the test being biased are very high.

Furthermore, the framework has shown that the teacher's knowledge in early childhood assessment influenced teachers' assessment practices. Teachers reportedly made informed decisions when conducting assessment in ECE Centres regardless of the assessment outcome. For example, teachers often avoided using portfolios for assessment of children to avoid being inconvenienced because the materials needed for such assessments were not readily available. In addition, because most teachers preferred easy and quick assessment strategies, portfolios could not be used because they were deemed to be too involving and time consuming. Meanwhile, it is one of the best assessment strategies in ECE because portfolios show the children's developmental and academic progression over time. The information obtained can be very insightful to the learner, the teacher and the parents. Most importantly, portfolios have the potential to inform teaching and learning in ECE Centres.

On the other hand, the teachers' knowledge in early childhood assessment equally influenced the teachers' choice of assessment strategies teachers used to assess children in ECE Centres. It was clear that teachers chose assessment strategies that were convenient to them and those that were quick and easy to implement. For instance, it was common for teachers to use performance assessments that required children to do arithmetic, write and read. Further, the findings in the current study affirm what is proposed in the framework that depending on the assessment practices by teachers in ECE Centres and what assessment strategies teachers use to assess children, that is

certainly what will influence the assessment outcome in ECE Centres. For instance, teachers who chose to implement assessment practices that were not prescribed in the revised ECE curriculum but instead implemented that which was convenient to them disadvantaged children because the assessment results were compromised.

Perhaps, one may argue that when teachers use assessment strategies that are not in line with the expected learner outcomes, assessment results are likely to be compromised. On the contrary, teachers who use appropriate assessment strategies in line with the expected learner outcomes when assessing children in ECE are likely to obtain authentic assessment results that enhance children's development and academic learning.

In short, it can be stated that the findings of this current study agree with the framework as suggested by Liehr and Smith (1999) cited in Imenda, (2014:188) who assert that a conceptual framework for research is a:

> *structure that provides guidance for the researcher, as study questions are fine-tuned, methods for measuring variables are selected and analyses are planned. Once data are collected and analysed, the framework is used as a mirror to check whether the findings agree with the framework or whether there are some discrepancies; where discrepancies exist, a question is asked as to whether the framework can be used to explain them.*

5.7 Summary of chapter five

In summary, the discussion and analysis of the findings by order of objectives has clearly exemplified the assessment practices used by teachers in ECE Centres. The first objective aimed at establishing assessment practices used by teachers in ECE Centres. The study has shown that assessment in ECE Centres is both summative and formative. The second objective aimed at ascertaining to what extent teachers were knowledgeable about the principles that guide assessment in ECE. The study has shown that teachers were knowledgeable about the principles that guide assessment in ECE. However, in spite of teachers being knowledgeable about the principles that guide assessment in ECE, teachers were biased in the way they applied the guidelines when assessing children in

ECE Centres. Consequently, the implication was that assessment results were being compromised in ECE Centres.

Regarding the third objective, which sought to ascertain challenges experienced by teachers in early childhood assessment, the study has shown that teachers experienced many challenges caused by internal and external factors. Finally, the chapter has discussed the salient findings of the sociocultural theoretical framework by providing insight on how it provided the theoretical lens to guide the study. Similarly, the conceptual framework on assessment practices used by teachers in ECE Centres has been discussed to show how it provided context and guidance to the current study.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Overview

The aim of this final chapter is to show that the purpose and objectives of the study have been achieved. This chapter makes specific conclusions and recommendations on the study. This is followed by a presentation on the innovation of the study and contribution to new knowledge, suggestions for future research and implications of this study for practice and policy.

6.2 Summary

The purpose of this study was to establish the assessment practices used by teachers in Early Childhood Education Centres (ECE) to understand how teachers implemented summative and formative assessments. The aim was to better understand how teachers implemented summative and formative assessment to track, measure and document the progress of children's development and academic learning in ECE Centres. In particular, the study sought to: establish assessment practices used by teachers in ECE Centres; examine to what extent teachers were knowledgeable about principles that guide assessment in ECE; and to establish challenges if any, experienced by teachers in early childhood assessment. Presented below is a summary of the main research findings guided by the research questions.

6.2.1 What are the assessment practices used by teachers in ECE Centres?

The study revealed that both assessment of learning (Summative assessment) and assessment for learning (Formative assessment) were standard assessment practices in ECE Centres. The study revealed that summative assessments in ECE Centres were often conducted using formal assessment methods. Mid-term tests and end of term tests were mainly used to assess children's academic learning in ECE Centres, while performance assessments were often used to assess children's development. The test items were often taken from the content teachers taught in the classroom drawn from the revised

ECE curriculum, the internet and other ECE resource books. In addition, the study revealed that diagnostic and readiness tests were also being administered as summative assessments in selected ECE Centres in Lusaka although diagnostic tests were haphazardly conducted. ECE Centres reportedly prepared their own readiness tests which they administered before children were enrolled at the ECE Centre and when the children were transitioning to grade one.

Regarding formative assessment, the study showed that formative assessments in ECE Centres were often conducted using various informal assessment strategies such as paper and pencil tests in which learners read questions and responded in writing, homework, oral questions, collection of samples, portfolios, interview guides, music, games and dances. Although formative assessment is supposed to inform instruction and learning, most teachers did not collect and use assessment information to adjust their instruction to children's individual needs according to the norms of formative assessment. As a result, inconsistencies were observed in the manner teachers conducted the formative assessment. Teachers did not adhere to the actual norms of formative assessment, suggesting that formative assessments in ECE Centres were reduced to what appeared to be a series of tests that resemble formative assessment, hence defeating its intended purpose.

Regarding assessment strategies used by teachers in ECE Centres, teachers reportedly used different assessment strategies to assess children in ECE Centres. However, the study showed the most frequently, and predominant assessment strategies used by teachers were Homework, Interview guides and Paper and pencil tests. In addition, learners read questions and responded in writing. Nevertheless, it should be noted that although homework was the most frequently used assessment strategy amongst all assessment strategies in ECE Centres, little was done to maximise its intended benefits with regards to a reinforcement of classroom teaching and learning and consolidation of a partnership between stakeholders at the ECE Centre and at home.

Regarding observations in ECE Centres, it was anticipated in this current study that teachers would know that assessment through observation is an integral part of the revised ECE programme in Zambia. However, results revealed that most teachers did not know that observation was integral to the ECE programme. As a result, assessment through observations were rarely conducted in ECE Centres. Instead, most assessment strategies implemented by teachers in ECE Centres were formal and those that were informal still adopted characteristics of formal assessments. Teachers were more comfortable implementing assessment practices that were convenient to them, quick and easy to implement.

With regards to documentation of observations, the study revealed that teachers did very little to document their observations. This could be attributed to the fact that teachers rarely used observations for assessment which requires documentation as a prerequisite.

In addition, although the revised ECE curriculum postulates that there should be no formal written examinations set after children finish the work for each age group, the study has shown that teachers were still conducting in-class formal examinations for different age groups. Therefore, these findings strongly suggest that teachers did not always link their assessment practices to what is prescribed in the revised curriculum and that assessment in ECE Centres is unsystematically implemented. Meanwhile, as long as individual teachers do not adhere to what is prescribed in the revised ECE curriculum, teachers are likely to continue conducting assessment as they wish, resulting in compromised assessment outcomes.

With regards to the use of standardised assessment tools in ECE centres, the study revealed that very few teachers used standardised assessment tools for assessment of children in ECE Centres. Meanwhile, the ECE curriculum recommends the use of standardised assessment for monitoring of child development in case of developmental delays that may need extra or specific attention. This implies that little was done to help children who needed extra or specific attention in ECE Centres.

6.2.2 To what extent were teachers knowledgeable about principles that guide assessment in ECE?

The study revealed that teachers were knowledgeable about principles that guide assessment in ECE although their satisfactory level of knowledge did not translate into authentic assessment practices in ECE Centres. Given that teachers were knowledgeable about principles that guide assessment in ECE Centres, the expectations among other things were for the teachers to: apply their knowledge of principles that guide assessment without any compromise when conducting assessment and ensure that they conduct assessment according to what was prescribed in the revised curriculum. On the contrary, the study revealed that teachers were biased in the way they applied the principles that guide assessment in ECE Centres hence compromising assessment results. Teachers frequently applied three principles to guide their assessment in ECE Centres. These were: 'consideration of a child's age and content of task,' 'consideration of the developmental capabilities of a child' and 'consideration of use of familiar materials when engaging children in an assessment task.' The fact that teachers were complacent and selective in the way they applied the principles that guide assessment each time they conducted assessment suggests that assessment results were compromised.

6.2.3 What challenges, if any, do teachers experience in early childhood assessment?

The study revealed that teachers experienced challenges conducting an assessment that was authentic in ECE. The study has shown that some of the challenges teachers experienced were due to a lack of curriculum orientation through in-service training. Most teachers exhibited ignorance on what is prescribed on assessment in the curriculum due to lack of curriculum orientation. As a result, teachers conducted assessments according to what they taught and what was convenient to them. Other challenges experienced by teachers were lack of sufficient time for teachers to conduct certain assessments due to inflexible timetables that did not leave room for adjustments. Most teachers reportedly obliged to stick to the inflexible timetables to avoid being reprimanded by their supervisors.

Furthermore, the study revealed that parents exerted pressure on teachers to conduct assessments that were formal and could be interpreted symbolically to signify how individual children were performing by showing their positions in class in comparison with other learners. In addition, the study revealed that there were limited readily available standardised assessment tools in ECE Centres. In addition, the Ministry of General Education was inefficient in the way it oriented teachers on the use of *The Child Assessment Tool for Zambia (CDATZ)* in assessing children in ECE Centres. Most teachers did not know how to use the tool whilst others had never even seen it and yet it is an essential tool for assessment in ECE Centres in Zambia. Finally, the study revealed that ECE Centres lacked essential resources such as play equipment, basic things like box files, paints, crayons, building blocks and assorted toys that are required to conduct authentic assessments in ECE Centres.

6.3 Conclusion

In conclusion, the study has shown that assessment practices in ECE have the potential to influence children's development and academic learning. However, the idea of teachers failing to assess children according to what was prescribed in the revised curriculum is a source of concern because it often compromised assessment results hence limiting the potential influence of assessment on children's development and academic learning. Furthermore, while teachers adhered to Vygotsky's sociocultural theory on what to assess and how to assess children in ECE Centres, teachers did little to adhere to the actual norms of summative and formative assessment practices in ECE. However, the conceptual framework seems to confirm what was proposed suggesting that assessment practices used by practices in ECE are influenced by both the teachers' knowledge in early childhood assessment and the challenges experienced by teachers in early childhood assessment.

Additionally, the study has shown that teachers knew how to conduct authentic assessment although they were complacent and exhibited diverse perspectives of assessment practices and preferences. Notably, teachers preferred using assessment

strategies that were convenient, easy and quick to administer. Perhaps, lack of standard approaches for formative and summative assessment at ECE level in Lusaka, Zambia could have contributed to the teachers' complacency and diverse perspectives of assessment practices.

Furthermore, it was evident that teachers experienced challenges conducting authentic assessment in ECE Centres, due to among other things pressure from parents and head teachers who had little understanding of early childhood assessment practices. Consequently, teachers succumbed to the pressure, potentially demotivating low achieving children and compromising assessment results in ECE Centres. Meanwhile, to a large extent, the position taken by parents and head teachers, seemed to have been influenced by lack of information on the prescribed assessment practices in the revised curriculum. Apparently, little was being done to help head teachers and parents to conceptualise and appreciate the aspects of assessment in ECE Centres and yet this could help curb unnecessary pressure from parents and head teachers as key stakeholders in early childhood assessment. If these concerns are not addressed, assessment in ECE Centres will simply be a formality with little or no benefit to children's development and academic learning.

6.4 Recommendations

Based on the findings of the study, the following recommendations are being made.

1. For the teachers to have a better understanding of how to conduct a summative and formative assessment in ECE Centres, the study recommends that the Ministry of General Education should conduct capacity building training programmes for teachers on formative and summative assessment practices in ECE to ensure that teachers conceptualize characteristics of formative and summative assessment in ECE for effective implementation of both assessments.

2. Given that the study has shown that teachers experienced challenges conducting authentic assessments in ECE Centres largely due to lack of in-service training and

Continuous Professional Development (CPD) on how to use and interpret the content of the revised ECE curriculum on formative and summative assessment, the Ministry of General Education should consider intensifying in-service trainings and CPDs on the subject matter by ensuring that they train a specific number of teachers from the designated CPD zones (both the public and private ECE Centres). Thereafter, the teachers who undergo the training on the revised curriculum should be assigned a specific number of zones to go and train fellow teachers within a specific period. Subsequently, a report should be submitted to higher authority for accountability purposes.

3. For the Ministry of General Education to be efficient in the way it orients teachers on how to use the *Child Assessment Tool for Zambia (CDATZ)* for assessment in ECE Centres, it should also intensify in-service training on the use of the CDATZ by ensuring that it trains at least one ECE teacher from both the public and private from different zones within the district. Thereafter, those who are trained should then train fellow teachers in their respective zones during CPDs.

4. In order to address the issue of fixed timetables which do not permit authentic assessments, lack of play equipment and basic material at ECE Centres, change of mind set and priorities is what may solve the challenges. Therefore, the Ministry of General Education should ensure that head teachers, deputy head teachers and senior teachers undergo comprehensive and elaborate orientation on the aim of ECE in Zambia, its scope and the use of the revised curriculum for planning, teaching and evaluation.

5. In order to make parents stop mounting pressure on teachers regarding assessment strategies and tools teachers use, administrators in ECE Centres, in collaboration with teachers and ECE experts, should hold sensitisation meetings on ECE assessment practices so that parents can understand the dynamics involved in early childhood assessment in ECE Centres.

6.5 Innovations of the study and contribution to new knowledge

1. This could be one of the preliminary studies in Zambia to investigate assessment practices used by teachers in ECE Centres. The findings of the study have shown that assessment practices used by teachers in ECE Centres have the potential to influence child development and academic learning in ECE Centres.

2. To the best knowledge of the researcher, the revelation that teachers in ECE Centres did not know that assessment through observation should be an integral part of the ECE programme compromised how assessment was conducted in ECE Centres. As a result, assessment results were also compromised hence defeating the purpose of assessment in ECE Centres.

3. The study has visibly shown the principles of assessment that guide assessment in early childhood. Implications of teachers' biasness towards the application of principles of assessment when conducting assessment in ECE Centres have been brought to the fore.

4. Although it was not anticipated, the study has shown that despite teachers being trained in ECE, some of them still struggle to conduct assessment effectively contending that they had limited knowledge on assessment in ECE and that in their opinion, pre-service teacher education did not adequately prepare them for assessment tasks.

5. Although it was hoped that head teachers as overall supervisors at ECE Centres would provide the support teachers needed to conduct authentic assessment in ECE Centres, the study has shown that most head teachers had little understanding of how to conduct authentic assessment in ECE Centres. If anything, head teachers reportedly contributed to the challenges experienced by teachers in early childhood assessment.

6. Other than the *Child Assessment Tool for Zambia*, this current study has exemplified other child assessment tools that have been developed from a Zambian perspective with substantiated empirical evidence documenting their ecocultural and psychometric validity.

7. This study makes a significant contribution to literature particularly in the field of early childhood assessment in Zambia. The study therefore sets a ground for future studies.

6.6 Suggestions for further research

The current study focused on assessment practices used by teachers in ECE Centres which should be seen as a preliminary effort in this area, there is need for further research that would focus on other areas of Early Childhood Education.

1. The study has shown that formative assessment in ECE Centres did not conform to norms of formative assessment resulting, in inconsistences that reduced formative assessment to what appeared to be a series of tests that resemble formative assessment. Therefore, there is need for more studies focusing on formative assessment in ECE Centres to provide reasons for inconsistences noted in formative assessment in ECE Centres.

2. The study has shown that the Ministry of General Education was inefficient in how they oriented teachers on the revised ECE curriculum and how to use the *Child Assessment Tool for Zambia* (CDATZ) for assessment of children in ECE Centres. Therefore, there is need for more studies to ascertain the long-term effects of such inefficiency on student and teacher performance in ECE Centres.

3. There is a need for a statistical analysis of children who transition from public ECE Centres to primary schools considering that places for grade one is not guaranteed for those in public ECE Centres to establish the dropout rate and the effects on those who drop out.

6.7 Implications of this study for practice and policy

This study's implications for practice suggest that assessment in ECE Centres can be more effective if the curriculum can be more elaborate on what it really means to assess children through observations. Apparently, teachers lack the understanding of what it really means to assess children through observation. Perhaps this can be attributed to a lack of guidance on what assessment strategies could be considered appropriate when conducting observations. In addition, teachers seem to have challenges documenting assessments in ECE Centres. Tentatively, in order to address these challenges, an additional handbook can be designed specifically to provide more information on assessment strategies that should be used to effectively assess children using observation in ECE Centres. Visual illustrations of how to document assessment can also be designed to overcome any misinterpretation that might be there among teachers.

Furthermore, the study has shown that head teachers' lack of understanding of how assessment should be conducted in ECE Centres has significant implications on teachers' assessment practices in ECE Centres. Therefore, for teachers to receive the support that they need to conduct an assessment that is authentic in ECE Centres, ECE teachers should not be supervised by head teachers, instead supervision in ECE Centres should be reserved for those who have ECE background with vast teaching experience in an ECE Centre and should Keep abreast of what is new in the ECE sector.

The implications of this study for policy suggest that policymakers need to outline appropriate policy guidelines on what constitutes acceptable formative and summative assessment in ECE. Perhaps, the policy guidelines may help to get rid of the constraints that currently limit assessment practices used by teachers in ECE Centres. In addition, there is a need for Zambia to have an ECE policy that exemplifies the kind of partnership that should exist between teachers and parents when it comes to assessing children in ECE to obtain authentic assessment results. It is evident from the current study that there is little involvement of parents in the assessment process of their children in ECE Centres and yet parents are an important source of information regarding their children's

capabilities and developmental milestones. Additionally, there is a need to strengthen and enforce policies on implementing assessment tools that are considered compulsory for use in all ECE Centres to get the desired outcome. Apparently, the study has shown that teachers did not feel obliged to use the proposed assessment tool (Child Assessment Tool for Zambia) for child assessment in ECE Centres. Yet the MoGE had been advocating for its mandatory use in ECE Centres.

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APPENDICES

Appendix 1: Questionnaire for early childhood teachers

Part I: Introductory part

Dear Respondent,

I am a PhD student at the University of Zambia conducting a study on the topic: "**Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia.**"

You have been identified as one of the key informants in this study. This questionnaire has been designed as one of the instruments to collect the needed data. The information obtained from this questionnaire shall be treated with the highest confidentiality and used for academic purposes only. Your participation in the study is entirely voluntary and you have a choice either to accept or decline to participate. The choice that you will make will have no bearing on your job. You are therefore required to read the information that has been provided below for you to make an informed decision. Thereafter, you will be required to sign a certificate of consent form to show that you have accepted to participate in the study. If the consent form contains words that you do not understand, please feel free to ask me at any point and I will take time to explain. If you have questions later, you can still ask me on the following cell number **+260 0976 336900** or send an email to stellalungu34@yahoo.com. Similarly, if you are not very clear on what this study is all about, please do not hesitate to seek clarification. I will be able to explain to you. A summary of the study is provided below.

Summary of the study

The study intends to investigate assessment practices used by teachers in Early Childhood Education (ECE) Centres in Lusaka to establish how assessment is being conducted in view of the ECE curriculum that was revised in 2013. It is imperative to conduct this study because teachers' assessment practices have the potential to influence learners developmental and academic learning in ECE. The research findings will be shared through publications and conferences.

Part II: Certificate of informed consent

I _____ have read the foregoing information on this current study. I have had the opportunity to ask questions and seek clarification where I was not clear. Any questions that I had have been clarified to my satisfaction. I therefore consent voluntarily to be a participant in this study.

Full Name: _____

Signature: _____

Date: _____

> **Day/Month/Year**

Thank you in advance for accepting to respond to this questionnaire. Please answer each question as truthfully as possible. **DO NOT** write or indicate your name on the questionnaire. **Tick (√) in the box against the answer you have chosen or write a few lines as required in the spaces provided. Your honest responses will be appreciated.**

Part III: SECTION A. DEMOGRAPHIC DETAILS

1.	Where is the ECE Centre located?	Indicate the location (E.g., Matero, Kabulonga)			
2.	Type of Centre	Public	Private		
2 a.	Name of ECE Centre				
3.	Number of years the ECE Centre has been in existence.	0 to 5 yrs.	6 to 10 yrs.	11 to 15 yrs.	16 yrs. & above
4.	Sex of Respondent	Male	Female		
5.	Age of Respondent	18 to 25 yrs.	26 to 30 yrs.	31 to 35 yrs.	36 yrs. & above
5 b	Cell Number of Respondent				
6.	Are you a trained ECE teacher?	Yes	No		
7.	Teaching qualification attained	Certificate in Education	Diploma in Education	Degree in Education	Other, Specify
8 a	If your answer to question 6 is yes, indicate the institution that trained you.				

8. b	If your answer to question 6 is no, specify your qualification				
9.	Experience in teaching (ECE)	1 year & below	2 to 5 yrs.	6 to 10 yrs.	Above 11 yrs.
10.	How long have you been using the revised ECE syllabus	1 year & below	2 to 3 yrs.	4 to 5 yrs.	5 to 6 yrs.
11.	Do you use other supplementary materials to plan your work?	Yes	No		
11 b.	If your answer to question 11 is Yes, specify what you use.				
12.	How many children do you have in your class?	Not more than 20 children	21 to 30 children	31 to 40 children	Above 40 children
13.	Indicate the distribution of gender in your class?	Boys	Girls		
14.	Does the Centre enrol children with disabilities?	Yes	No		
14 b.	If the answer to question 14 is Yes, state the nature of disability.				

14 c.	If the answer to question 14 is No, state the reasons				
15.	Are you paid a salary at the Centre?	Yes	No		
15 b.	If you answered Yes to question 15, how do you rate the salary?	Excellent	Very good	Good	Poor
16.	Have you received any In-service Training/Continuous Professional Development training since you started teaching?	Yes	No		
16 b.	If your answer to question 17 is Yes, who provided the training?				
16 c.	What was the duration of the training?				
16 d.	How long ago did you undergo this CPD training?	Between 1 month to 1 yr. ago	Between 2 yrs. & 3 yrs. ago	Between 4 yrs. & 5 yrs. ago	More than 6 yrs.

17. If your answer to question 16 is yes, please tick **(v)** in the box against the answer you have chosen to indicate the nature of training you attended.

Nature of Training Attended	Tick here
The use of revised Zambian ECE curriculum	
Methods of Assessment & Evaluation in ECE	
Teaching Methods in ECE	
Curriculum development	
Child development	
Child Psychology	
Classroom Management	
Children's Rights	
Professionalism & Teacher Registration in Zambia	
Other, specify	

SECTION B: ASSESSMENT IN EARLY CHILDHOOD EDUCATION (ECE) CENTRES.

18. How did you learn to assess children effectively? Please, tick **(v)** in the box at the beginning of the sentence if you agree with the statement.

☐ I learned during Pre-service teacher education.

☐ I learned through Continuous Professional Development (CPD).

☐ I learned from fellow teachers on the job.

☐ I learned from reading educational books on assessment.

☐ I learned from my supervisor at work.

☐ I learned from my teaching experience over the years.

☐ I still struggle assessing children effectively because of the limited

knowledge that l, have on assessment in ECE.

☐ I still struggle with assessment because in my opinion, pre-service training

did not adequately prepare me for assessment tasks.

Other, please specify_____

19. Please tick **(√)** in the box against the answer you have chosen, to indicate the methods of assessment you use at your ECE Centre.

Methods of Assessment Teachers use	Tick here
Formal Assessments	
Readiness Tests	
Mid-Term Tests	
End of Term Tests	
Diagnostic test (Developmental Screening)	
Informal Assessment Techniques	
Anecdotal Records	
Running Records	
Time Sampling	
Event Sampling	
Checklists	
Rating Scales	
Jottings (Short details of significant events, behaviours or conversations)	
Photographs	
Video recording/ Audio recording	
Learning story	
Collecting samples of children's work	
Other, specify	

20. How should Assessment be conducted in ECE Centres according to what has been prescribed in the revised Zambian ECE curriculum?

_____

_____

_____

21. Please tick **(√)** in the box against the answer you have chosen, to indicate the principles of assessment you **strictly** follow when **conducting assessment** at your ECE Centre.

Principles of Assessment in ECE	Tick here
Collaboration with families when conducting assessment	
Incorporate children's views when conducting assessment.	
Consider the individual children's cultural backgrounds and languages.	
Consider the children's individual interests and daily activities.	
Documenting what is observed when children are in their comfort zones.	
Use familiar materials when engaging children in an assessment task.	
Combine multiple approaches of assessment.	
Consider a child's age and context of task.	
Consider the developmental capabilities of a child.	
Respect the child's unwillingness to perform a task or take a test.	
Other, specify	

SECTION C: ASSESSMENT STRATEGIES TEACHERS USE TO ASSESS CHILDREN'S DEVELOPMENTAL AND ACADEMIC LEARNING IN ECE CENTRES.

22. Please tick **(√)** in the box against the answer you have chosen, to indicate the tools and strategies you **frequently** use for assessment at your ECE Centre.

Assessment Strategies Teachers use	Tick here
Portfolio	
Learning stories	
Work Samples	
Paper and pencil tests	
Interview Guides	
Standardized Tests	
Technology-based tasks	
Homework	
Peer Assessment	
Rating Scale	
Other, specify	

23. Select **any three** Assessment tools and strategies you have ticked in question twenty-two (22) above and indicate how many times you use them for assessment at the ECE Centres.

Assessment Strategies frequently used by teachers in ECE.	In a day	Per Week	Per Month	Per Year

24. Please tick **(√)** in the box against the answer you have chosen, to indicate which of the standardised assessment tools you have used to assess children at your ECE Centre.

	Standardized Assessment Tools used by Teachers	Tick here
	Panga Muntu Test (PMT)	
	Zambian Child Assessment Test (ZamCAT)	
	The Child Development Assessment Tool for Zambia (CDATZ)	
	The Peabody Picture Vocabulary Test-3rd ed.	
	The Ages and Stages Questionnaires (ASQ-3) Third Edition	
	Other, specify	
	Reasons for not using Standardised Assessment Tools	
	I have never seen any of them.	
	Lack of knowledge on how to use them.	
	They are not easily accessible.	
	They take long to administer.	
	Other, specify	

SECTION D: PRINCIPLES GUIDING ASSESSMENT IN EARLY CHILDHOOD EDUCATION

25. The following statements refer to **Assessment Principles and Practices in ECE**. Please tick **(√)** in the box against each statement to show whether the statement is **true or false.**

		Tick here	Tick here
	Statements on assessment principles & practices in ECE	**True**	**False**
	Early Childhood assessment must be purpose driven.		

	Readiness assessments in ECE should be used to directly support children's development and academic achievement to improve educational outcomes.		
	Assessment in ECE must be aligned to curriculum and instruction.		
	Parents should be a valued source of assessment information, as well as an audience for assessment results.		
	Teachers should not consider the individual children's cultural backgrounds and languages when conducting assessment.		
	Teachers who consider the children's individual interests and daily activities when conducting assessments do not fully understand their role in assessment.		
	It is not necessary to document what a teacher observes when children are in their comfort zones.		
	It is important to utilize familiar materials when engaging children in an assessment task.		
	Teachers should not combine multiple approaches of assessment for effective assessment results.		
	It is not necessary to consider a child's age and context of task when conducting assessment.		
	Assessment must be beneficial to children but not the teachers		
	Assessments in ECE should be linguistically appropriate.		
	Teachers should consider the developmental capabilities of a child before giving the child an assessment task.		
	A child at an ECE Centre who is not willing to perform a task or take a test should not be punished.		
	A child should be punished for not performing a task according to the teacher's expectation.		
	Assessments in ECE should be used to compare the children's capabilities.		
	Assessment in ECE can also be used to improve instructional practices.		

	Assessment in ECE should include both formal and informal methods.		
	Assessment results in ECE can be used to predict a child's future academic and life success.		
	It is not always necessary for teachers to incorporate children's views when conducting assessment.		
	TOTAL =		

RELEVANT DOCUMENTS IN ECE CENTRES IN ZAMBIA

26. **SECTION E:** Please tick **(√)** in the box against the answer you have chosen, to indicate which among the following important documents are readily available at your ECE Centre.

☐ The revised Zambian ECE curriculum.

☐ Early Childhood Education Standard Guidelines.

☐ Early Learning and Development Standards for Zambia (ELDS).

☐ The Child Development Assessment Tool for Zambia (CDATZ).

☐ Teacher's Guides in all the subjects.

27. From the documents mentioned above, which ones have you have read so far?

a) _____

b) _____

c) _____

d) _____

SECTION F: CHALLENGES OF ASSESSMENT IN EARLY CHILDHOOD EDUCATION.

28. Briefly describe the challenges you might have experienced (if any) with regards to interpreting the syllabus content.

_____

_____

_____

29. Briefly describe the challenges you might have experienced with regards to understanding the instructions in the ECE curriculum on how to assess children after an activity.

_____

_____

_____

_____

30. What recommendations would you make to address the challenges you have mentioned?

_____

_____

_____

_____

31. Any other comment you would like to add? Please, comment below.

_____

_____

_____

_____

_____

Thank you for your responses and time

Appendix 2: Questionnaire for parents/guardians

Part I: Introductory Part

Dear Respondent,

I am a PhD student at the University of Zambia conducting a study on the topic: "**Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia."**

You have been identified as one of the key informants in this study. This questionnaire has been designed as one of the instruments to collect the needed data. The information obtained from this questionnaire shall be treated with the highest confidentiality and used for academic purposes only. Your participation in the study is entirely voluntary and you have a choice either to accept or decline to participate. The choice that you will make will have no bearing on either yourself or your child who is enrolled at the ECE Centre. You are therefore required to read the information that has been provided below for you to make an informed decision. Thereafter, you will be required to sign a certificate of consent form to show that you have accepted to participate in the study. If the consent form contains words that you do not understand, please feel free to ask me at any point and I will take time to explain. If you have questions later, you can still ask me on the following cell number **+260 0976 336900** or send an email to stellalungu34@yahoo.com. Similarly, if you are not very clear on what this study is all about, please do not hesitate to seek clarification. I will be able to explain to you. A summary of the study is provided below.

Summary of the study

The study intends to investigate assessment practices used by teachers in Early Childhood Education (ECE) Centres in Lusaka to establish how assessment is being conducted in view of the ECE curriculum that was revised in 2013. It is imperative to conduct this study because teachers' assessment practices have the potential to influence learners developmental and academic learning in ECE. The research findings will be shared through publications and conferences

Part II: Certificate of Informed Consent

I _____ have read the foregoing information on this current study. I have had the opportunity to ask questions and seek clarification where I was not clear. Any questions that I had have been clarified to my satisfaction. I therefore consent voluntarily to be a participant in this study.

Full Name: _____

Signature: _____

Date: _____

    Day/Month/Year

Thank you in advance for accepting to respond to this questionnaire. Please answer each question as truthfully as possible. **DO NOT** write or indicate your name on the questionnaire. **Tick (√) in the box against the answer you have chosen or write a few lines as required in the spaces provided. Your honest responses will be appreciated.**

PART III: SECTION A. DEMOGRAPHIC DETAILS

1.	Write your home address							
1a.	Cell Number							
2.	Sex of Respondent	Male		Female				
3.	Age of Respondent	Between 18 & 24 years		Between 25 & 30 years			Between 31 & 35 years	Above 36 years
4.	What is your relationship to the child?	Father	Mother	Uncle	Aunt	Grand father	Grand mother	Other, Specify
5.	How long has your child been enrolled at the ECE Centre?	Less than a year		1 to 2 years			3 to 4 years	More than 4 years
6.	Type of Centre your child attends	Public		Private				
6 a.	Name of ECE Centre							
7.	Do you pay any fees for the child?	Yes		No				

8.	Was the child given any work/task to do in order to assess his /her school readiness abilities before being enrolled?	Yes	No	

8 b.	If you answered Yes to question 8, did the person who gave the child the work/task explain to you what exactly the assessment was about?	Yes	No	
8 c.	If you answered No to question 8, what were the requirements for your child to be enrolled at the Centre? List any three.	i. ii. iii.		

SECTION B: ASSESSMENT PRACTICES IN ECE CENTRES.

9.	From the time your child started school, apart from the day when you collect Report Forms/Books (Open Day), have you ever been invited to the ECE Centre to discuss your child's school performance?	Yes ☐ No ☐

10.	If you answered Yes to question nine (9), were you shown any records of the child's work in form of documents, artefacts (objects) or files when you visited the school?	Yes ☐ No ☐
11.	If you answered Yes to question ten (10), briefly explain what the teacher said to you.	
12.	If you answered Yes to question ten (10), how often are you invited by the school to discuss your child's school performance.	
13.	Does the ECE Centre (school) write you to discuss your observations of your child's school performance?	Yes ☐ No ☐
15.	Does the child come with homework at times? Yes ☐ No ☐	

16.	If you answered Yes to question fifteen (15), how frequent does the child come with homework in a week?	1 to 2 times a week	3 to 4 times a week	Everyday
17.	Who helps the child with homework?	Parents / Guardians	Older Siblings	Other, Specify

18 a.	Does teacher create a provision in the child's exercise book where you need to comment on how the child has done the homework? Yes ☐ No ☐
18 b.	Does teacher provide a separate book for you to indicate your comments on how the child did the homework? Yes ☐ No ☐
18 c.	If you answered yes to either question 18 a. or 18 b, did teacher explain to you on what exactly you are required to write or comment after your child has done the homework? Yes ☐ No ☐
19.	When your child writes the end of term tests, does the teacher indicate the child's overall performance by signalling his/her relative position (the number he/she has passed) compared to other children (e.g., indicating the position of the child in class such as number 1, 5 or 10?). Yes ☐ No ☐

20.	If you answered No, to question nineteen (19), briefly explain how the teacher reports/records the child's developmental and academic performance.				
21.	How would you rate your involvement in the assessment process of your child (i.e., whether the teacher has been consulting you on how your child has been developing and academically learning)	Excellent	Very Good	Good	Poor

22. What would you identify as barriers to your involvement in the assessment process of your child's development and academic performance?

_____

_____

_____

_____

_____

23. What do you think are the advantages of getting involved in the assessment of your child's development and academic performance?

_____

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_____

_____

_____

24.   What is your comment regarding the methods/approaches teachers use to assess your child at the ECE Centre?

_____

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Thank you for your responses and time

Appendix 3: Interview guide for head teachers at ECE Centres

Part I: Introductory part

Dear Respondent,

I am a PhD student at the University of Zambia conducting a study on the topic: "**Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia."**

You have been identified as one of the key informants in this study. This Interview guide has been designed as one of the instruments to collect the needed data. The information obtained from this interview shall be treated with the highest confidentiality and used for academic purposes only. Your participation in the study is entirely voluntary and you have a choice either to accept or decline to participate and the choice that you will make will have no bearing on your job. You are therefore required to read the information that has been provided below for you to make an informed decision. Thereafter, you will be required to sign a certificate of consent form to show that you have accepted to participate in the study. If the consent form contains words that you do not understand, please feel free to ask me at any point and I will take time to explain. If you have questions later, you can still ask or call me later the following cell number **+260 0976 336900** or send an email to stellalungu34@yahoo.com. Similarly, if you are not very clear on what this study is all about, please do not hesitate to seek clarification. I will be able to explain to you. A summary of the study is provided below.

Summary of the study

The study intends to investigate assessment practices used by teachers in Early Childhood Education (ECE) Centres in Lusaka to establish how assessment is being conducted in view of the ECE curriculum that was revised in 2013. It is imperative to conduct this study because teachers' assessment practices have the potential to

influence learners developmental and academic learning in ECE. The research findings will be shared through publications and conferences.

Part II: Certificate of informed consent

I _____ have read the foregoing information on this current study. I have had the opportunity to ask questions and seek clarification where I was not clear. Any questions that I had have been clarified to my satisfaction. I therefore consent voluntarily to be a participant in this study.

Full Name: _____

Signature: _____

Date: _____

      Day/Month/Year

Thank you for accepting to be interviewed. Please answer each question as truthfully as possible.

1. **Could you please tell me a little about yourself in terms of your professional qualification, teaching experience and your role as Head teacher of this school?**

2. **Do you have the revised ECE curriculum at your Centre?**

   - Do the teachers have the required Teacher's guides in all the subjects?
   - Did the teachers undergo any orientation in the ECE revised curriculum?
   - If they did, who provided the training?
   - What other supplementary documents on assessment does the Centre provide to the teachers?

3. **Do you have the following documents at your Centre?**

   - Early Childhood Education Standard Guidelines.
   - Early Learning and Development Standards for Zambia (ELDS).
   - The Child Development Assessment Tool for Zambia (CDAZ).
   - Have the teachers been oriented on these documents/tools?

4. **How do ECE teachers assess children' development and learning?**

   - What methods do teachers use when assessing children?
   - May you please describe the assessment tools and strategies teachers use?
   - Do teachers consult and involve children's families when conducting assessment?
   - Can you describe the nature of their involvement?
   - In your view, what do the teachers mainly consider before they start assessing children?

5. **Do you have any provision for capacity building at your Centre regarding sharpening teachers' teaching and assessment skills?**

- Do you organise special training/workshops for them to learn new approaches of teaching and assessment or any other skill?

6. **In your view, are the teachers able to interpret the revised ECE curriculum and effectively conduct assessment according to what is prescribed in the curriculum?**

- Do you think ECE teachers have adequate knowledge and skills to conduct effective assessment in ECE?
- What kind of challenges do you think teachers might be faced with when conducting assessment in ECE?
- What measures has the school put in place to correct the situation?

7. **In conclusion, is there anything you would like to comment on or share in line with what we have discussed so far?**

Thank you for your responses and time.

Appendix 4: Focus Group Discussion guide for teachers

Part I: Introductory part

Dear Respondent,

I am a PhD student at the University of Zambia conducting a study on the topic: "**Assessment practices used by teachers in Early Childhood Education Centres in Lusaka, Zambia.**"

You have been identified as key informants in this study. Thank you in advance for taking time to be interviewed. The information obtained from this Focus Group Discussion shall be treated with the highest confidentiality and used for academic purposes only. Please answer each question as truthfully as possible**.**

You have been identified as key informants in this study. Each participant is urged to exercise confidentiality so that the information obtained from this Focus Group Discussion (FGD) is treated with the highest confidentiality and used for academic purposes only although it may not be guaranteed in a group.

Your participation in the study is entirely voluntary and you have a choice either to accept or decline to participate and the choice that you will make will have no bearing on your studies. You are therefore required to read the information that has been provided below for you to make an informed decision. Thereafter, you will be required to sign a certificate of consent form to show that you have accepted to participate in the study. If the consent form contains words that you do not understand, please feel free to ask me at any point and I will take time to explain. If you have questions later, you can still ask or call me later on the following cell number **+260 0976 336900** or send an email to stellalungu34@yahoo.com. Similarly, if you are not very clear on what this study is all about, please do not hesitate to seek clarification. I will be able to explain to you. A summary of the study is provided below.

Summary of the Study

The study intends to examine assessment practices used by teachers in Early Childhood Education (ECE) Centres in Lusaka to establish how assessment is being conducted in view of the ECE curriculum that was revised in 2013. It is imperative to conduct this study because teachers' assessment practices have the potential to influence learners developmental and academic learning in ECE. The research findings will be shared through publications and conferences.

Part II: Certificate of Informed Consent

I _____ have read the foregoing information on this current study. I have had the opportunity to ask questions and seek clarification where I was not clear. Any questions that I had have been clarified to my satisfaction. I therefore consent voluntarily to be a participant in this study.

Full Name: _____

Signature: _____

Date: _____

   Day/Month/Year

Thank you for accepting to be interviewed. Please answer each question as truthfully as possible.

1. Could you please tell me what you know about assessment of children in Early Childhood Education?

2. Have you received any training in assessment of young children?

    - Who provided the training?

    - When were you trained?

    - What was the duration of your training?

    - What was the content of the training?

3. Please, mention some of the methods of assessment that you use to assess children.

4. What are some of the principles of assessment (Key aspects) you consider when conducting assessment?

5. How about the assessment tools and strategies used in ECE? Could you please describe the ones you have used so far for assessment at your ECE Centre?

6. In your view, what could be the purpose of assessment in ECE?

7. Could you please explain how you learned how to assess children in ECE?

8. What are some of the challenges that you experience when conducting assessments at your ECE Centres?

9. In conclusion, is there anything you would like to comment on or share in line with what we were discussing?

Thank you for your responses and time

Appendix 5: Documentary analysis guide for the researcher

	DOCUMENTARY ANALYSIS GUIDE
	RESEARCH TITLE: TEACHERS' ASSESSMENT PRACTICES IN EARLY CHILDHOOD EDUCATION CENTRES (ECE) IN LUSAKA, ZAMBIA
	THINGS TO NOTE ON AVAILABLE DOCUMENTS/TOOLS USED FOR ASSESSMENT AT THE ECE CENTRE
I	Which of the required documents in an ECE Centre are readily available?
Ii	What is the title and content of the document/tool?
Iii	Who developed the document/tool?
Iv	Where and how is the tool administered?
Vi	What is the assessment method used?
Vii	What information does it provide about what learners can do, cannot do or are ready to do?
Viii	Does the document/tool serve the intended purpose?
Ix	Is the document/tool appropriate for use in ECE?
X	Does teacher possess the minimum knowledge and skill to successfully use the document/tool?
Ix	Who is expected to use the document/tool between the teacher and the child?

Appendix 6: Observational guide for the researcher

	QUESTION	YES	NO	N/A	COMMENTS
1	Does teacher possess a revised ECE syllabi, and Teacher's Guides in all subjects?				
2	Does teacher use multiple assessment tools/strategies for both formal and informal assessments?				
3	Does teacher use assessment results to signal the individual children's relative position compared to other children in class.				
4	Does teacher force children to participate in assessment tasks?				
5	How does teacher deal with children who are not willing to participate in tasks?				
6	Does teacher involve parents when conducting some assessments?				
7	Does teacher use homework to assess children?				

8	Does teacher use the child's performance in the Homework for planning future assessment tasks or for collaboration with parents?				
9	Does teacher document the assessment results of individual children?				
10	Does teacher regularly share the assessment results with parents?				
11	Does teacher use observation as an assessment tool?				
12	Does teacher focus on the assessment task when conducting observations?				
13	How does teacher document the observations?				
14	Does teacher use the documented data from observations for planning or for children's portfolio?				
15	Does teacher stop observations when faced with challenges?				

16	Do the schemes of work and lesson plans reflect the content of the curriculum?				
17	Does teacher adhere to the approaches prescribed in revised ECE curriculum?				
18	Does teacher conduct assessment with ease?				
19	Does the revised ECE curriculum pose some challenges to teachers?				
20	Does teacher improvise solutions to the challenges being experienced?				