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EXAMINING THE EFFECT OF CAREGIVER TRAINING ON COGNITIVE DEVELOPMENT OF CHILDREN AGED 4-5 YEARS IN COMMUNITY BASED CHILDCARE CENTRES IN DOWA DISTRICT, MALAWI.

By

Jonathan Bonongwe

A dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of the Master of Education in Early Childcare and Development Education (ECCDE).

THE UNIVERSITY OF ZAMBIA

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AUTHOR'S DECLARATION

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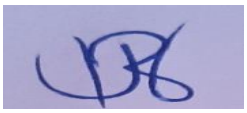
Signature:  **Date: 28 February 2025.**

CERTIFICATE OF APPROVAL

This dissertation of Jonathan Bonongwe has been approved as partial fulfilment of the requirements for the award of Master of Education in Early Childcare and Development Education (ECCDE) by the University of Zambia.

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ABSTRACT

This study examined the effects of caregiver training on the cognitive development of children aged 4-5 years in community-based childcare centers (CBCCs) in Dowa District, Malawi. The study aimed to achieve four objectives: to assess the effects of trained caregivers on early childhood education; to examine children's competencies in language and literacy in CBCCs managed by trained and untrained caregivers, to evaluate children's social and emotional development in these centers; and to investigate the effect of caregiver training on cognitive development. Using a quantitative approach and a causal-comparative research design, the study compared the impact of trained and untrained caregivers on children's cognitive development. A total of 120 children (70 girls and 50 boys) were sampled from the Traditional Authorities of Mponela and Chiwere. Stratified and systematic random sampling techniques were used to ensure equal representation of children cared for by trained and untrained caregivers. The Measuring Early Learning for Quality Outcomes (MELQO) tool, with thirteen assessment components, was used for data collection. Data were analyzed using SPSS, with T-tests conducted to determine statistical significance. Findings revealed that caregiver training had a statistically significant impact on children's cognitive development. All but one component through which children were assessed showed statistically significant differences. Only in the component of "how it was written", there was no statistical significance. The results showed that neither the untrained nor the trained caregivers contributed to the development of skills in social-emotional, language and cognitive development. Components like naming items, copying shapes, receptive spatial vocabulary, forward digit span, producing a set, verbal counting, number identification and pencil tapping confirmed that trained caregivers contributed more positively to social-emotional, language and cognitive development skills while components like listening comprehension, name writing, and letter identification showed that even untrained caregiver can equally contribute to social-emotion, language and cognitive development in children. The study recommended that the government provide financial support for caregiver training and incentivize volunteers. It also suggested that trained caregivers share their skills with untrained counterparts. The study emphasized that caregiver training supports multiple Sustainable Development Goals (SDGs), particularly quality education and health and well-being, and provides long-term economic benefits through early childhood education (ECD) strategies.

DEDICATION

To Rejoice, Mzonse, Nathan and Trinity. An academic motivation to you all. This work is dedicated to my beloved wife Rejoice; you have been my pillar and source of strength throughout this study. The support I received from you was simply amazing and encouragement and moral support pushed me this far. May God bless you in all your endeavours. To my children Mzonse, Nathan and Trinity, thank you for your amazing support and patience exhibited during the entire period I was kept busy doing this work. You contributed more to this development work. To my brother and friends, I say thank you for believing in me.

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This study epitomizes a creative endeavor with inspiration derived from diverse places.

I would like to acknowledge the 'mind' of the people who supported in this. To God be the Glory. I am grateful for the intellectual guidance from my main research supervisor Dr B. Kaani, of the University of Zambia. Dr. Kaani has been available all through the process trying to make sure I am doing the right thing as a student this cannot go unmentioned. His due diligence and academic rigor kept me on my toes and surely, made this study a creative endeavor. I especially thank all my research participants for they made it possible for this study by allowing their children to participate in the study (Examining the effect of caregiver training on cognitive development of children aged 4-5 years in Community Based Childcare Centres in Dowa District, Malawi) on cognitive development in their respective community Based Childcare Centres (CBCCs) in Dowa district Malawi. I am most appreciative of my two biggest cheerleaders, Carlos and others for keeping me encouraged. I am deeply grateful to the unconditional love and support provided by Rejoice Bonongwe, and for seeing me through the countless steps of the life's educational adventures. I am imbued by her dynamic leadership and knowledge. I derived strength and encouragement to press forward in this study fully conscious of the fact that she is always ready to listen and lend me her support, even at short notice. I must also recognize Nathan, Trinity and Mzonse. You three are the reason why I have moved this far. You are always there cheering; you don't know with how much strength that cheerfulness rejuvenated me. Finally, I would like to thank the distinguished global network of colleagues in Child Development including classmates who inspire me to explore new ideas each day. They assured me that the findings of this study stand tall at the frontiers of Development Studies.

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LIST OF ABBREVIATION & ACCRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CBO	Community Based Organization
CBCC	Community Based Childcare Center
DHS	Demographic Health Survey
FDG	Focus Group Discussion
ECD	Early Childhood Development
GoM	Government of Malawi
HIV	Human Immunodeficiency Virus
MoGCDSW	Ministry of Gender, Children, Disability and Social Welfare
NGOs	Non-Governmental Organizations
NPA	National Plan of Action on Orphans and Other Vulnerable Children
NSO	National Statistical Office
OVC	Orphans and Vulnerable Children
PSS	Psychosocial Support
SEP	Social Economic Profile
TA	Traditional Authority
WHO	World Health Organization

CHAPTER ONE

1.0 OVERVIEW

This chapter delves into introducing the study. It focuses on bringing the background of the study, setting and the identified gap from which the study finds its roots. This chapter will also look into the statement of the problem, purpose of the study, objectives, significance of the study, theoretical framework, conceptual framework, delimitations as well as limitations of the study. The chapter gives a brief direction of what is expected to be done and what is expected to be achieved.

1.1 Introduction

Children are the source of hope for the future (UNICEF & WHO, 2022). For a country to realize good leadership and patriotic citizenship, the government must invest more in early childhood education (Smritirekha & Satapathy, 2017). Investing in childhood development can be a good source for human capital and economic development for the nation (Dodge, 2007). Stable, responsive, nurturing relationships and rich learning experiences in the earliest years provide lifelong benefits for learning, behaviour, physical and mental health (Shonkoff & Richmond, 2009). Early childhood education is considered to be the foundation for development of human capital and platform for accelerated brain development (Matafwali, 2022).

Effective childhood development services depend on many factors one of which is qualified child caregivers. Kaani, (2019), argues that qualified teachers have positive effects on children's learning. Teachers who are qualified can impart knowledge and skills to learners and positively affect their learning using the skills learned during their training. Unqualified teachers on the other hand cannot be expected to teach effectively due to absence of specialized skills. Therefore, these teachers without specialised knowledge cannot be expected to produce fluent readers (Applegate & Applegate, 2004). This phenomenon has been coined as a Peter effect principle by Applegate and Applegate. The Peter Effect metaphor is derived from the biblical story of St Peter in Acts 3:5 in which Peter was asked by a beggar for money at the entrance to the temple and he could not help because he did not have. From this biblical understanding it is observed that help can only come from those that have the capacity to help. It is from this same understanding that this study builds its argument that caregivers who are well trained can be entrusted to develop children's cognitive skills unlike caregivers that are not trained in any way (Kaani, 2019).

1.2 Background

Early childhood education in Malawi dates back to the early 1960s when it was first introduced by missionaries as a way of only helping the mothers in raising their children. From this early stage, the focus has been to provide early stimulation and development. At this time caregivers self-volunteered to help in caring for children in the centres. The approach for identifying caregivers had little attention on the qualification of caregivers. The most important element was just to see one's willingness to work with children. Caregivers have been used in the taking care of children in the so-called community Based Childcare Centres (Malawi Government 2018).

To ensure effective early learning and stimulation approach, government has put in place standards of management on community based childcare centres. The caregivers are provided with an on-job training on a minimum of two weeks. However, despite that caregivers in the early learning centres are volunteers, the government guidelines indicate that a caregiver should at least have an academic qualification of a junior secondary school certificate or anything above (Malawi government, 2018). Adding on to this, caregivers should undergo the caregiver training for a minimum of two weeks and maximum of 21 days for them to become qualified caregivers. During these three weeks training, the caregivers undergo some courses that help them acquire basic knowledge and skills on child care and stimulation, child psychology, protection and disability issues. After this training, caregivers are awarded with an attendance certificate.

Considering that such caregivers' trainings are expensive, and the Malawi government may not afford training all caregivers, volunteers are allowed to work with children even if they have never undergone any formal training. Different early childhood development partners have also been engaged to support in different early childhood development interventions but very few can support the caregiver training (Action Aid Malawi, 2021).

Children within the age range of 2-5 years are enrolled in the early childhood learning centres. It is within this age range of 2-5 that a child's development is very rapid as such, a lot of attention has to be provided to make sure they develop optimally (Brito, 2017). During the early years period (0-8 years), a child requires adequate attention and support from either parents or guardians and other relevant partners in child's development journey (Ministry of Gender, 2018).

Evidence has empirically shown that there is a strong relationship between trained teachers and the cognitive development of children especially in the component of reading and enumerating (Kaani, 2019). Research has shown that child social development is also influenced by the environmental factors in which the child is experiencing. The child will need to cognitively develop and this is dependent on a number of factors including the people the child is surrounded with that model the child (UNICEF et al, 2022). The Peter effect notion in this case comes into play as people are able to predict how much is expected from the trained caregivers as well as the untrained caregivers in the cognitive development of children in the CBCCs (Applegate & Applegate, 2004). It is therefore essential to consider the type of people the child is associated with as models in their early years of development.

Going by the common practice and statistics available in Malawi, a lot of caregivers in most of the community Based child care centres in the district are not trained and have low education qualifications. At least only 49% of the total caregiver population had gone through some kind of training. Statistics also show that most of the caregivers are females and only 8 percent of the caregiver population are males (Malawi Government Annual Report, 2018). Despite the Early Learning and Developmental Standards document available, it is difficult to implement due to a number of other existing factors that includes lack of well-educated, trained and motivated caregivers that can help stimulate early learning at ECD centres (Shallwami et al, 2018). Most caregivers are identified by the community to help children in CBCCs as volunteers. This makes it so difficult for the government (policy implementers) to enforce the policy considering that, the government has little or no control over this despite the existing documents. This entails that most of the children are being assisted by caregivers who have little or no knowledge on child development, inclusive education and water and sanitation issues which makes it difficult to assess the children.

At the age of three years (normally the time at which children start attending early childhood classes), the caregiver becomes one essential stakeholder to shape the child into a well-groomed future productive citizen (Shallwami et al, 2018). This is the time when a lot of developmental processes occur in children in various domains of development. It is the time when meaningful learning takes place in children (UNICEF et al, 2022). It is therefore the time in which children need sufficient role modelling, instructional material and many others that help them develop. This is the time through which the caregiver requires to give a lot of scaffolding to enhance the children's cognitive skills and also for them to develop a better foundation in the child's life (Smritirekha & Satapathy, 2017). This requires a teacher or

caregiver who understands what children are going through at that particular time so that children are helped through the process of development.

The use of volunteers in early childhood learning has resulted into having underqualified caregivers managing the preschools. According to Malawi National ECD policy (GoM, 2018), junior secondary certificate of education is envisioned a minimum requirement for ECE caregivers. This is according to the Early Learning Development Standards (ELDS). However, this is not the case because caregivers are deployed on voluntary basis (GoM, 2018). Statistics have shown that only 49% of caregivers in ECE centres in Malawi have received some formal training, which means only a small number of children in the country are supported by trained caregivers (Malawi Government Annual Report, 2018). This leaves one wondering whether having trained caregivers in early learning centres is impactful in children's cognitive development as opposed to having caregivers that are not trained.

1.3 Statement of the problem

For many years, children in Community Based Childcare Centres (CBCC) in Malawi have been getting their support in stimulation and early learning from caregivers who are not trained. These caregivers have been volunteers identified by the community. Learning through such untrained (unqualified) caregivers has led to a lot of children not being able to gain mastery of their cognitive development skills and delayed developmental milestones (UNICEF et al, 2022). To minimise this problem, the government and stakeholders developed a 21days training program to be followed to train caregivers so that they qualify as caregivers and use necessary skills to help children develop cognitively. However, despite having at least 49 percent of all caregivers trained in child care for at least a minimum of two weeks (National ECD Report, 2018), no empirical evidence has been shared to indicate that the trained caregivers are indeed impacting positively on children's cognitive development, reading and mathematical skills as well as social emotional skills development. Lack of knowledge on this has failed to influence decision makers to make strong decisions on training of caregivers since the importance of training caregivers is not seen. It is therefore for this reason that a research study was conducted to assess the difference in cognitive skills level of development between children whose caregivers were trained and those whose caregivers were not trained.

1.4 Purpose of the study

The purpose of this study was to examine the effect of specialised early childhood caregiver training in cognitive development amongst the five-year-old children in CBCCs in Dowa

district in Malawi. Specifically, study was to compare the level of cognitive development between four- and five-years old children cared for by caregivers who have formal training in child care and their untrained counterparts on their level of reading and mathematical skills and social emotional skills.

1.5 Objectives

The main objective for this study was to determine whether there are statistically significant mean differences in cognitive development between children cared for by trained caregivers and caregivers without training in Dowa district of Malawi.

1.5.1 Specific Objectives.

The following were the specific objectives under this study

I. To examine the children's competencies in language and literacy in CBCCs both managed by trained caregivers and untrained caregivers.
II. To assess the children's social and emotional development in both CBCCs managed by trained and untrained caregivers.
III. To explore the effects of trained caregivers on cognitive development of children aged 4-5 years in community based childcare centres in Dowa district**.**

1.6 Research Questions

The study was guided by the following research questions

I. How do children cared for by trained and untrained caregivers differ in their language and literacy development?
II. How do children cared for by trained caregivers differ from those care for by untrained caregivers in their social emotional development?
III. What is the effect of trained caregivers on development of children aged 4-5 years in community based childcare centres in Dowa?

H1: Children cared for by trained caregivers present better social-emotional, language and cognitive skills than those cared for by untrained caregivers.

1.7 Significance of the study

This study was primarily intended to examine the extent to which trained caregiver contributes to children's cognitive development in Dowa district. The trained caregiver is expected to help children in all domains of physicals development, social and emotion, cognitive, spiritual and

moral, language and literacy and approaches towards learning (Government of Malawi, 2018). However, the district has very few trained caregivers as such most of the CBCCs do not have trained caregivers. The study therefore would help to give feedback to partners and stakeholders in early childhood development programs including the government on whether is necessary to have caregivers trained in early childhood education or not.

Apart from contributing to the body of knowledge the study may also help decision makers in early childhood services to plan well for the child's optimal development at all levels be it community, district and national level.

1.8 Theoretical frame work

1.8.1 The Peter Effect of Caregivers

Poor children performance in class and classroom instruction has been attributed to a lack of basic understanding of the concepts related child care and management (Binks-Cantrel, et al, 2012). In Malawi, half of the caregiver population are not trained (Malawi Government, 2018). This may also mean half of the children are cared for by untrained caregivers who may not have the required knowledge in the field. Well trained caregivers have better skills and knowledge on how to prepare for lessons and can understand their children's level of development. Therefore, it is expected of children taught by such caregivers to perform better and show high levels of cognitive development as opposed to those children cared for by untrained caregivers. Peter Effect theory suggests that poor caregiver knowledge is likely to produce underdeveloped children in CBCCs (Kaani, 2015).

There are several factors that may lead to having a lot of unqualified caregivers that Malawi experiences to foster early learning and stimulation of children in various ECE centres. Amongst the many factors includes the high cost of the caregivers training which can only take fourteen days as the minimum and can go as far as twenty-one days as maximum training period. Provision of logistical support to caregivers in such trainings can be way too expensive. The implementing partners including government struggle to fund such activities and so they are done once in a while and mostly by partners. The expensiveness of the training leaves the stakeholders with no choice but to use the underqualified caregivers (Action Aid Malawi, 2021). The Peter effect suggest that those that have knowledge are better placed to help and can be trusted of bringing change unlike those that do not.

Although learning in children is made possible through play. The caregiver needs to have knowledge to initiate the type of play and for what objectives so that learning takes place. The

caregiver needs to be developmentally conscious so that he or she initiate the type of play that enhances cognitive development in children. Such developmental initiatives are better explained by trained caregivers who have knowledge of the developmental games for children to use for play to enhance their learning. It is therefore not just a matter of playing with children that matter but rather an understanding of what children will gain at the end of each play activity (Munsaka & Kalinde, 2017).

1.8.2 Ecological Systems theory by Urie Bronfenbrenner

Learning is a process that requires a conducive environment. A conducive learning environment is an environment that provides safety, makes learners feel respected and valued and where they can effectively learn and be engaged (Roorda et al., 2011). In children, learning can be so effective when the environment is child friendly. In this case all factors need to be considered for effective cognitive development to take place. The ecological systems theory can be used to help us understand the importance of the learning environment to children for cognitive development. In this theory a system is considered of many parts that are mutually important to each other and that each part has an important role to play to make the system complete. The ecological perspective in this theory argues that the environment in which an individual operates determines the outcome of that interaction. An individual will need to interact and operate at different levels of the ecological system. And their performance at all these levels will depend upon the intensity of interaction one has at each level (Munsaka & Kalinde 2017). The two perspectives here help us to explain how a child interacts with different levels of environment from home, CBCC and also how the interaction of individuals in the system influence the development of the child.

Individuals do not live in a vacuum; their behaviour is an influence of both their inborn traits and the environment they live in (Parsons, 2005). Often times the environment is minimally considered when an assessment is being carried on an individual's situation. As described by Payne (2005) systems are entities with boundaries within which physical and mental energy is exchanged internally more that they are across the boundary. This leads to the idea that some systems are closed while others are open (Teater, 2010). CBCCs also run using the existing systems within the communities where the centre is established. Child learning centres are a system made up of interrelated parts (Teater, 2010). The CBCC in a community set up will run using the existing community system. Using the ecological model then one is able to understand the community and be able to apply the necessary skills to help achieve any

development agenda. In that regard therefore, when a CBCC is well managed and is able to provide its intended purpose, this is going to be reflected in the larger community. A trained caregiver can be part of the essential parts of the system for its functionality and effectiveness. The trained caregiver becomes part of the stronger system unlike the untrained caregiver who in returns weakens the system. A trained caregiver is expected to interact well with children, understand their developmental levels and be able to provide relevant support for optimal development of each learner (Kaani, 2019).

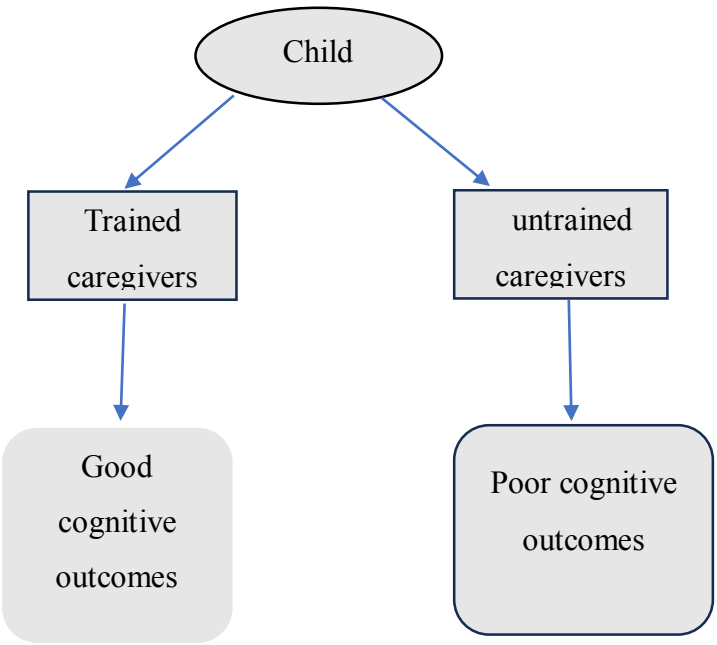
The ecological perspective approach on the other hand as propounded by Urie Bronfenbrenner (1974) focuses on individuals as part of and incorporating other systems and so it integrates social with psychological elements in practice (Payne, 2005). The family is the first and most influential system that children interact with as they grow. Depending on how open or closed the systems are, the child's capacity to withstand situations is determined. Children whose home environment is not conducive for survival and development are likely not to do well in class as they have a lot of psychological issues going on in their minds (Guy-Evans, 2020).

Sending children to preschools, nursery schools or community-based child care centres increases their chances to interact with their world around them and provides them with an opportunity to understand and make sense of the world. Children are able to understand simple concepts that matter in life. Playing is the natural way through which children learn things about life. Sending children to pre-schools increases the children's interaction through play hence providing them an opportunity to learn more (Munsaka et al, 2017).

1.9 Conceptual Framework

Diagram 1. below illustrates that availability of a trained caregiver can influence availability of play materials and community support and these can lead to a conducive learning environment which will eventually help the child develop cognitively.

Diagram 1. Conceptual framework



1.9 .1 Conceptual/Operational Definitions

Cognitive development is the demonstration of skills that show how children, think, relate, explore and figure things out their environment. It is therefore a manifestation of different developmental domains like social-emotional, language and literacy.

Conducive environment is a place that is able to meet all the child's need for stimulation, learning for optimal development

Holistic Development is the total optimal social, emotional, physical, mental and intellectual growth of a person

Caregivers are individuals trusted to take care of children in early learning centres

1.10. Delimitations

This study was only limited to Dowa district council hence it may not be reliable for generalization to any places outside the study scope. Also, this study only focuses on trained and untrained caregivers in the CBCCs as such the findings may not be a generalization of all caregivers in the district. Dowa district has hilly topography on one end and flat area on the other end and most partners have liked to implement their activities on one side of the district leaving the other side which equally need the interventions. The experienced challenge was

that during data collection it rained heavily such that some areas were difficult to reach using vehicles and so the researcher opted to walk on foot to reach out to the children from these centres. Ideally the research would have been longitudinal considering the type of information collected. However, it was not possible to conduct a longitudinal study due to time factor.

1.11. Limitations

The study was partially affected by other confounding variables like availability of play materials, use of play based learning and many other factors. It was also discovered that at the time of study, it was the lean season in which most ECD centres had no food for the children as such absenteeism rate was high and also some children were coming to school on an empty stomach and that affected their performance during assessment. Another challenge that was experienced during assessment was that it was discovered that the assessment tool was long as such it took a lot of time to finish in which case children got tired along the way. The researcher had to break in between with other activities for the children not to feel very tired. The researcher also got challenged on identification of children for assessment as it was observed that most children of the targeted age group could not go to their centres as there was no food provided in most centres. This was normalized by identifying more centres to visit for child assessment.

1.12. Summary of the Chapter

This chapter has looked into the introduction of the study, the originality of ECE in Malawi as well as the present situation. The chapter has further highlighted that lack of empirical information regarding the effects of trained caregivers' effects on children's cognitive development has necessitated the need to have this study conducted. The Peter effect is the theoretical framework anchoring the study. However, the study borrows knowledge from the social systems theory to support the arguments there-in. Limitations and delimitations have also been mentioned in the chapter and how they were controlled and managed. The next chapter will discuss more about the literature relating to this study as studied by other authors.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview

This section describes how different studies have been conducted around the ideas on the relevance of trained caregivers in terms of helping children develop cognitively through the community based childcare centers within their communities. Many ideas center on the need to send the children for stimulation, play and interact with the outside home environment as they are prepared for school life. However little attention is given to the caregivers on how they impact on the children's cognitive development. The children's learning environment is key for optimal development as such attention needs to be given to who is available in the children's environment.

2.2 Nurturing care Framework

As defined by WHO (2018), nurturing care refers to conditions created by public policies, programs and services. These conditions enable communities and caregivers to ensure children's good health and nutrition, and protect them from threats. Nurturing care also means giving young children opportunities for early learning, through interactions that are responsive and emotionally supportive. Children need support for them to thrive and develop. Investing in children does not only help the child but it goes along way helping the business people, parents and the community at large. It is therefore regarded that investing in children in an investment for the whole community and the country at large. Investing in early childhood development is cost effective in a way that for every one dollar ($1) invested the country benefits thirteen dollar ($13) more in future (World Health Organization, 2018). Investing in children also help children to realize their rights, survive and develop well so that they become good and productive citizens of the society.

The early years of the child lasts forever. The early years form the foundation of the child's future life and a person becomes what they are because of what they went through when they were young (Malawi Government, 2012). The most critical period of the child in their early years is the period from zero to three years. This is the most critical time as it is the period in which the brain development is so rapid. This is where 80% of the brain is developed and so for a healthy brain development a child needs to feel safe, secure, and be in a loving environment at this period (WHO, 2018). The child should develop a sense of trust in other people for their healthy development. This has to go along with the right nutrition and

stimulation from caregivers and guardians. This is when a child needs a well mature and sound minded guardian or caregiver to provide the appropriate support.

However, this has not been the case lately in most countries especially in middle income countries. Statistics have shown that nearly 250 million children under the age of two suffer in many different ways as such their chances of a better future are reduced due to poverty and stunting (WHO 2018). The nurturing care framework draws its attention towards addressing the challenges children face in their early years by putting in place a road map on how children should be taken care of in their early years. Nurturing care framework sets out the most effective policies and services that will help parents and caregivers provide the most appropriate and timely care for their children. It is designed to provide a roadmap for action, helping mobilise parents and caregivers and their groups, governments, civil society groups, academics, the United Nations, the private sector, educational institutions and other service providers to ensure that every child gets the best start in life (WHO, 2018). As children grow, they meet a lot of threats that affect their development both physical and mental. These threats include extreme poverty, unsafe environment, gender inequalities, violence, environmental toxins, and poor mental health. All these conditions affect caregivers or parents, families and even institutions that look after children. The threats can reduce the caregivers' capacity to protect, support and promote young children's development (WHO, 2018).

Through positive interactions with caregivers, children are able to learn and develop as well as thrive and survive (WHO, 2018). Nurturing care framework therefore requires caregivers to have knowledge of what they are supposed to do, how to do it and when in the process of caring for children. Caregivers need to interact more with children to create the secure and loving environment that enables children's growth and development. By enabling environment, we refer to an environment in which policies, guidelines, programs and services are put in place for people to have access to and make use of them. This is an environment that gives families, parents and caregivers an opportunity and access to knowledge and resources to provide nurturing care for young children. Community participation is a key part of this environment, which also needs to consider the diversity of children and families. Nurturing care framework has five major components namely good health, adequate nutrition, security and safety, opportunities for learning and responsive caregiving.

2.2.1 Good Health

A healthy caregiver is the one that has a sound mind and has the energy to serve the children well without any biases. A healthy caregiver will respond affectionately to the daily needs of the child. Children have a lot of needs, as such a healthy caregiver will be able to serve diligently to their needs. Because the caregiver and the child are all in good health, there will be minimal transmission of infections amongst the caregiver and the child and that will translate into good child development. A health caregiver will be able to protect children from hazards both at home and outside the home environment. If the caregiver is not health s/he will be busy attending to their illness and forget about child. If an early learning center has a caregiver who is ill, there are high chances that the caregiver will be absent and so children will the care and support that they need. Children will be missing lessons most of the times because the caregiver is not health and is busy working on their health condition. Children will need health services both preventive and promotive and so for a caregiver whose health is compromised will not be able to help children access to this. Likewise, children will need to have their health monitored both emotional, mental and physical well-being and also their physical activities and this is better done by a health individual to manage.

It is only a health caregiver that is guaranteed to provide good health to the child. So, for one to achieve child's good health, then one will need to consider the health of the caregiver. Caregivers that have good health can be trusted of monitoring the physical and emotional conditions of the child placed under their custody (UNICEF, et al 2017). The caregiver can be trusted to give love and affection to the child as love and affection are the needs of every child. The caregiver needs to understand the child's mental wellbeing to support them accordingly. As a child, their mental wellbeing is fragile as such it requires a caregiver who can help them meet their emotional needs timely. A caregiver must mind about the children environment to make sure they are safe from any harm (Ministry of Gender, 2019). A caregiver who does not mind the children's health by not doing much on their environment is dangerous and needs some redress. It is out of their environment that children can be secured or put at risk of any danger. So, it is paramount that the caregiver cares so much about the environment of the child under their care.

2.2.2 Adequate Nutrition.

The early experience in life mater a lot. They have far reaching impact in the later life. We are what we are because of early experiences. Early experiences affect our learning, our health, our behavior and also more importantly our social relationships with adults as well as our

earnings in the bigger society (UNICEF, 2018). It is therefore an important element to consider how early experiences of our children are because that is what will matter in the later life. If children are exposed good nutrition, adequate security, and responsive care and love, children are guaranteed of a brighter future than those that do not have access to adequate exposure to good nutrition, love and responsive care practices. The period from pregnancy to age 3 is very crucial as it is when children are most susceptible to environmental influences. Investing in this crucial moment of children's life is one of the most efficient and effective ways to help eliminate poverty and inequalities that exist in the society, boost shared prosperity, and it is where a country can help create the human capital needed for economic development of the society (Munsaka & Kalinde, 2017). The period from pregnancy to three years is scientifically proven to be the most crucial period in children as it is when brain development is very rapid. Unfortunately, in most settings this period is never addressed in most ECD programming. Nurturing Care Framework adequate nutrition component therefore aims to influence programming and planning of interventions that aim to address the nutrition challenges communities face in their localities.

Adequate nutrition is for both the child and the caregiver. If the child or the caregiver's nutrition intake is compromised, then they are vulnerable and susceptible to diseases. That is because the mother's nutritional status from pregnancy onwards has chances to affect the health and well-being of the mother herself and that of the unborn child. Equally, after birth, the mother's nutritional status can affect her ability to provide adequate care to the newly born child (UNICEF, 2017). The mother needs to breastfeed the child exclusively for at least the first six months before introducing complementary foods to the child which also needs to go along with continued breastfeeding. Complementary foods need to be well nourished, balanced and be able to meet the nutritional needs of the child hence a health caregiver is better placed to manage this (Ministry of Health, 2022). The caregiver needs to know what the child needs to take at what stage so that the child grows well nourished. The caregiver needs to know that the child needs some food supplements like zinc, vitamin A and other required vaccines. At times children may not like eating for other reasons, the caregiver is supposed to help the child eat and enjoy the meals. This requires having a caregiver that understands the needs of the child and how provide that to the child. A caregiver that does not have adequate knowledge about the needs of the child is likely going to compromise the child's nutrition as they will not be able to understand what the child needs at a particular time and why the child should have

specific food diets and failing which will compromise their child development (Munthali, 2014).

2.2.3 Responsive caregiving

Responsive caregiving can be defined as an approach to caregiving that centers much on observing a child's unique behaviors and adapting to the environment in a way that is responding to what they are communicating through their actions (Lytle, 2017). Responsive caregiving is about a caregiver having abilities to observe, notice and understand what the child is communicating and be able to provide feedback by helping the child meet his/her needs. Children can only communicate well through signals and it takes a caregiver who has skills to understand this to provide appropriate feedback at the right time (WHO, 2018). Responsive caregiving component is regarded the fundamental component in the sense that it enables responsive caregivers to be better at providing the other four components. Caregivers need to understand this component very well because it is only when they understand this very well that they (caregivers) will deliver the rest of the components to their very best. This can include protecting children from injuries and impacts of different adversities, recognizing and responding to illnesses, increased enjoyable interactions as well as helping them built trust and relationships. Before children learn how to interact with others, they first build trust with their primary caregivers. At this time learning is done through cuddling, eye contacts, smiles and even vocalization (UNICEF, 2022). The social interactions children have with their caregivers can also stimulate connections in the brain. Responsive caregiving is therefore essential component in as far as nurturing care practice is concerned. Is is essential for achieving good health, adequate nutrition, security and safety, and early learning (UNICEF 2018). Understanding the needs of a child and be able to respond accordingly are two different things. It takes one to have some good learned skills for them to care responsively. This is the reason why caregivers need to have skills understand the needs of a child at a particular time and also be able to respond appropriately according to the needs of the child. The Peter Effect principle entails that you cannot provide what you do not have (Kaani, 2019).

It is imperative therefore that caregivers should be trained and have necessary skills so that they become responsive caregivers. Training of caregivers ensures quality of service delivered to children in ECD centers. A trained caregiver is believed to have skills that enables them to understand the developmental milestones a child is going through and what is expected of them at every stage of their development. Because the caregiver has knowledge of the child's development, the caregiver is capable of providing the appropriate support to the child for their

optimal development. Responsive caregiving lets you know each individual child, including their strengths and their challenges and this familiarity with the child allows you to really customize your interactions accordingly, which is important for supporting development for all children (WHO, 2022).

Further to this, responsive caregiving provides an opportunity for a caregiver to observe and customize your interactions with children especially those suspected or known to have disabilities and even those with delayed developmental milestones. Caregivers learn how to support children according to their individual needs. The caregiver's knowledge on children's individual needs and preferences that come from responsive caregiving also helps them adapt classroom and home activities for children of all abilities and languages.

2.2.4 Opportunities for early learning

Opportunity for early learning is one other component that tackles the development of the child in the nurturing care framework. Opportunity for early learning emphasizes on providing for all children with equal opportunities to learn at whatever age they are. Children, whether a baby, toddler should be provided with a conducive environment where they are going to learn something at each and every time.

The framework recognizes that the child has to be in an environment that provides the child with an opportunity to learn something. It is believed that children begin to learn things right away from conception, and that skills start getting acquired the moment the child is born, through their interactions with their environment (Munsaka & Kalinde, 2017). Talking with the child, smiling and sharing eye contact, singing, modelling and imitation, playing simple games and telling stories to the child all are some of the most important elements in helping children gain some social skills (UNICEF, 2018). Parents or caregivers need to use the children's daily routine to play, sleep, eat, bath and talk to interact with children so that they develop a sense of trust. They should also engage children in active activities that help them use their muscles both fine and large muscles and also use their five senses to explore and learn from their environment (Munsaka & Kalinde, 2017).

Understanding that all children are equal and that they should have equal access and opportunities in life is not only a step towards achievement of opportunities for early learning, but also it is also a contribution towards a global movement of leaving no one behind (World Bank, 2022). Children regardless of where they come from need to be provided with equal opportunities in life. They need to have equal access to medical care, protection as well as early

learning. The government of Malawi tries to achieve this by putting in place a policy that directs all people to establishment of early learning centers at every place for children's convenience (Ministry of Gender, 2018). So early learning centers can be stablished close to hospitals, market places and close to schools. The reason is to make sure the service is provided to children at the nearest place possible for their easy access.

In children's early years, children acquire skills and knowledge interpersonally, in relationship with other people either of their age or older. The interaction that exists between children and their environment including people through smiling, talking, imitating, modelling and playing helps them to learn and acquire skills (UNICEF, 2017). According to Early childhood development policy in Malawi (2018), early learning centers in Malawi have at least more than two caregivers to manage the children on daily basis through-out the week. This commitment by government is to ensure children have opportunities for early learning within their localities and in their familiar language. The policy creates room for establishment of early learning centers either public or private hence increasing children's enrollment in early learning centers.

However, it is not only the availability of learning centers that matter to children's early learning. The availability of caregivers at each center is key in early learning. So as per the national policy on early childhood development in Malawi, each early learning center has at least not less than two caregivers (Government 2018). So, there are caregivers all over in the early learning centers. The challenge comes from whether the caregivers are doing responsive caregiving or not. Literature has shown that only 49 % of all caregivers are trained and qualified as caregivers while the rest of the remaining caregivers are not trained as such, they are not qualified caregivers. The quality of responsive caregiving remains a challenge in centers with untrained caregivers as the qualified (professional) caregiver is the one that is capable of providing responsive caregiving (Kaani 2019). In this context therefore having big numbers of caregivers does not guarantee responsive caregiving being provided neither does that help achieve play-based learning. It is only when children are taught or cared for by trained and skilled caregiver that responsive caregiving can be assured (Munsaka & Kalinde, 2017).

2.2.5 Security and safety

Nurturing Care frame work, apart from addressing SDGs 2030 goals in hunger, education and justice, the framework seeks to address child mortality, malnutrition, violence and early learning. The framework aims to inspire multisectoral approach that include sectors like health, nutrition, water and sanitation, education, labour, finance, social and child protection. The

sectors can work together towards achieving creation of a safe environment for child development (UNICEF, 2018). The framework seeks to address the challenges children meet in society. Children require protection at all times. There are different challenges that fall under child protection. The component seeks to empower communities to work together towards addressing the abusive, neglecting, exploitative and the violent society the world has become. The nurturing care framework also seeks to address social inequalities in social and child protection by ensuring availability of resources to ensure material and social security of families and communities so that children are protected from neglect and abuse (Malawi government, 2010). The framework ensures no one is left behind by ensuring all children enjoy their rights regardless of their physical, economic, social and mental status.

Nurturing care framework interventions have a variety of programs that aim at protecting and helping the child develop and survive. Sending children to early learning centers in one approach towards addressing child protection issues. Children sent to ECD centers are assured of their safety as parents concentrate of making ends meet for the family survival. Studies have shown that implementation of ECD activities have far-reaching long-term effects on the child in future and even beyond to the next generation. Nurturing care practices have significantly long-term benefits including for adult health, well-being, education, earnings, personal relationship as well as social life (UNICEF, 2018.

Adults who experienced adversities in their child hood life are estimated to earn close to a third less that their peers on annually. This makes them find it hard for them to improve on their lives hence making it tough for them to break the chains of poverty. This eventually has an impact in the national earnings. Protecting children and invests more in early learning therefore means the country is cutting down the cost that it would spend on the same people when they become adults. For instance, if the country spends on responsive caregiving now by training more caregivers, conduct home nutritional visits, provide supplements and do a lot of cognitive stimulation then the country will have a generation of improved cognitive functioning and eventually these children will be able to stimulate their children demonstrating intergeneration benefits of ECD (WHO, 2018).

Research has it that children develop well when they are attached to a secure base of safety (Munsaka & Kalinde, 2017). A secure and safe environment addresses the physical dangers, emotional stress and environmental risks. It is therefore very important for children to see their caregiver as a source of safety. They look up to him/her for their nutritional needs. Each time

they are hungry they share that with the caregiver as their counterpart to support them. The caregiver therefore is expected to provide a conducive environment for child access to nutritious food, clean water and sanitation, safe places to play and protection from physical torture, abuse, neglect and violence (Government of Malawi, 2016).

Poverty still stands to be the biggest threat to young ones. Monetary issues, air pollution, use of toxic chemicals, unsafe environments, and sometimes punitive measures of punishment that leads to violence are some of the risks children face on their day-to-day life. The need for social collective efforts is paramount to curb the malpractices that are imposed on young one. Government and other non-state actors need to provide Social and child protection services that are critical by securing financial and other support for the most vulnerable households (Dodge, 2007).

When the child is born the primary caregiver is the parent. However, there times the primary caregiver's ability to take care of the child is compromised and maybe sometimes is dead. In these circumstances an alternative caregiver has to be sought as early as possible to make sure the child is given an opportunity for survival, growth and development. The Malawi government has therefore put in place measures through the Child Care Protection and Justice Act of 2010 that such children can be placed in foster homes and in child care institutions. The purpose of all this is to ensure the child gets the support they need for their survival and development. So, regardless of the availability of the primary caregiver or not, the child's safety is guaranteed (Malawi Government, 2010).

In such placement the government through the ministry responsible for child protection issues will monitor the welfare of the child through constant supervision to the foster care home or the child care institution. Any compromise on the child's welfare the government has an eye on it and that cause for justice. Not all parents can be good primary caregivers, there are some that do not have good parenting skills. Parents or guardians without good parenting skills compromise the welfare of their own children. The law goes as far as bringing such parents or guardians to book with the purpose of helping to creative a conducive environment for child's development (UNICEF, 2017).

For implementation of nurturing care framework to be a success one will always have to be mindful of all the framework components. Nurturing care is about understanding that children need good nutrition for good health, children need security, children need safety assurance to promote their trust, responsive caregiving and also create opportunities for their learning

(Clark, 2019). Achievement of all these lies in the hand of the government, community and the family from which the child comes from. It is therefore important for all stakeholders in this to play their role to support the family and the child meet their needs in life (Malawi Government, 2010).

An enabling environment is needed for achievement of all these. The government has to put in place policies and programs that empower families and parents including caregivers to play their role. The government has to ensure that parents and caregivers have adequate knowledge and resources for them to use in nurturing and caring for the children. Community participation is essential in this created environment to help in understanding diversity of children and their family backgrounds (World Bank, 2018).

Adequate nutrition is key as this is the genesis for good life for all. Children will need to be properly feed for the holistic development. Starting from the time the mother is pregnant, or even before, the mother needs adequate nutritious food for the development of her body as well as that of the unborn child. A healthy mother is likely going to give out a healthy child and the sick mother's condition is likely going to compromise the health of the unborn child (Britto, 2017). Pregnant women are given micronutrients like supplements including iron because their body needs it. When children are born, they are placed on exclusive breastfeeding to make sure they get all they need from their mother including immunity for their health development. In Malawi this is implemented under the good watch of the ministry of health through their extension workers who are always on the lookout for anything that affects their development (Ministry of Gender, 2018).

According to a study conducted by Munthali et al in (2014), a significant number of children under the age of five are enrolled in the CBCC centers across the country. Such being the case the country is able to provide ECD services through the CBCCs, nursery schools and many other early learning centers located through the country. However, it was further indicated that most of the centers do not meet the minimum requirements of operations according to guidelines. Only 5% of all the ECD centers received support from donors while the rest relied on the community support to run daily affairs of the centers. This was one of the reasons why most of them could not meet the requirement standards.

The research also discovered that in the centers where caregivers were trained, it was the responsibility of the central level team to train such caregivers but the training of other structures like the CBCC management committee and others were managed by the community

itself. This was seen as a good approach to sustainability of the projects. This could also be attributed to the existence of some centers to date. According to this study the ECD programming uses multisectoral approach in which a lot of stakeholders have different roles to play. In this case a child gets the comprehensive support from all partners at one time. These partners complement each other in their support to the child. For instance, at an ECD center the child has access to health services through the Health Surveillance Assistant of the area.

Likewise, other extension workers of the same area have an opportunity to bring in their interventions to the same center meeting the same child. Like the nutrition officer from agriculture in the same catchment area is responsible to oversee the nutritional needs of the children at the center. Community Based Childcare Centers are advised to at least have a garden for the production of different farm produce to be used by children at the center. However, Munthali was not explicit as to how caregivers that are trained contribute to child's development. It is expected that such trained caregivers should give results that are positive and that children benefit from.

A study conducted by Sanjuan, Navarro and Calero (2022), whose main objective were to assess the benefits of a caregiver training program revealed that the adults who were being taken care of by the trained caregivers showed gained in the quality of life and cognitive abilities including maintenance of functional abilities. The study which involved studying the trained caregivers and also the adults that were taken care of by the trained caregivers indicated that these adults that were involved showed high level of their cognitive development. These high levels of cognitive development were attributed to the skills and knowledge gotten by the caregivers during their training to help these adults manage life without problems. It is therefore expected that training of caregivers should result into holistic support and development of an individual. In this study, the results showed there was direct impact which the cared adults showed through their improved cognitive performances. Likewise, children who are taken care of by caregivers will always determine the type of caregiver supporting them whether trained or untrained.

Early Childhood Development lays the foundation for a prosperous nation and a future stable economy for the country (Britto, 2017). Early education programs, including child care, pre-kindergarten, and kindergarten, have an opportunity to help children develop to their full potential. Children who attend programs that meet high quality standards are more likely to provide lasting benefits (Dodge, 2009). For instance, children who receive warm and sensitive

care are more likely to trust people, to enter school ready and eager to learn, and to get along well with other children. However, the successes of an ECD service depends on the different number of factors that include availability of play materials as well as caregivers. An ECD center requires to have well trained caregivers who have an understanding of what essential skills are required to manage a child. They need to have a strong sense of commitment towards helping children. Children are very distinct and have varying needs across all stages of development (Dodge, 2009).

The primary goal of a functional ECD system is to create the mechanisms for children and families to have greater access to high-quality ECD programs. In her study under the theme "Sustaining the Benefits of Early Childhood Education Experiences, Gomez (2016) argues that high-quality programs result in both short- and long-term benefits to young children. We know that a child's family and community environments are inextricably linked to his or her development, and stable attachment relationships can mitigate risk factors and promote positive social, emotional, and cognitive developmental outcomes (Bronfenbrenner 1986; Ainsworth & Bowlby 1991). Studies focusing on educational interventions for young children have also taught us that "ability gaps" – or differences in children's baseline knowledge and skills – are a primary cause for the achievement gap, begin at an early age, and cannot be mitigated by educational experiences after second grade (Gomez, 2016). This then explains that it is important that all necessary and important elements need to be identified and the child should be provided a comprehensive support at the earliest level so that the foundation is built on strong grounds (Munsaka, et al 2017).

The first years of a child will last forever (UNICEF & WHO, 2022). In her study, Gomez argues that early interventions can prevent the consequences of early adversity. Research has shown that later interventions are likely to be less successful – and in some cases are ineffective. For example, when children who experienced extreme neglect were placed in responsive foster care families before age two, their IQs increased more substantially and their brain activity and attachment relationships were more likely to become normal than if they were placed after the age of two. While there is no "magic age" for intervention, it is clear that, in most cases, intervening as early as possible is significantly more effective than waiting (Gomez, 2016).

Stable, caring relationships are essential for healthy development. Children need to develop in an environment of relationships that begin in the home and include extended family members, early care and education providers, and other members of the community. Studies indicate that

toddlers who have secure, trusting relationships with their parents or non-parent caregivers experience minimal stress hormone activation when frightened by a strange event, and those who have insecure relationships experience a significant activation of the stress response system (Dodge, 2009). Numerous scientific studies support the conclusion that providing supportive, responsive relationships as early in life as possible can prevent or reverse the damaging effects of toxic stress (Gomez 2016). Whatever is provided to the child in the first years of their life will form the foundation of their life and will always remain in them (Gomez 2016).

In her article, Almonte (2023), highlights of advantages and disadvantages of training caregivers in early education circles. In the article Almonte, argues that the trained caregivers have the skills to observation the development of every child as they grow together with their peers. She argues that training promotes the cordial relationship that exist between parents and guardians and the caretaker. It becomes their responsibility (caregivers) to see to it that children get the best support while they are in their hands and transfer that same level of accountability to their parents or guardians. Children benefit from the nurturing and stimulating environments that are always created by the caregivers that assures parents of their child's safety (Almonte, 2023).

On the contrary the untrained caregivers struggle a lot to grasp the understanding of child development (Almonte, 2023). For such caregivers to learn and understand the developmental milestones it is always a challenge. The untrained caregivers do not understand the fact that for one to understand the child, one must think like a child and so because of this a lot is missed out especially when the child is facing challenges. The untrained caregivers lead to ineffective classroom management. Caregivers that are not trained have a problem in creating a conducive learning environment that is well structured (Godge 2009). There is always luck of creativity in setting up a conducive learning environment. Due to lack of creativity in setting up a conducive learning environment that promote play based learning; caregivers struggle to manage children at the learning centers. The center looks disorganized and does not promote child development effectively (Unicef, 2018).

Almonte (2023), further argues to say where the caregiver is not a professional there is communication challenges with parents. Untrained caregivers have challenges in communicating with parents effectively. Caregivers lack skills to effectively communicate with parents on any development regarding their child. This lack of communication skills may

lead to misunderstandings and frustrations and sometimes mistrust between parents and caregivers regarding the child (Munsaka et al, 2017). The effects of having untrained caregivers to care for children can be of long term. Furthermore, lack of communication skill can affect the emotion wellbeing of children. If the caregiver fails to manage the emotional wellbeing of the child, they (children) many develop long lasting effects on the child's emotional development (Amonte, 2023).

In its article 'The Importance of caregivers-child interactions for survival and development of young children, World Bank (2024) highlights the different roles of caregivers in nurturing children for development. A well-trained caregiver has the capacity to help the child grow, survive and develop. The professional skills acquired by the caregiver during training are meant to help the caregiver have necessary skills that helps them work effectively for the survival and development of the child (World Bank, 2024). The caregiver is responsible for observation of the child's growth and development and share that with parents or guardian. The caregiver is observant of the child's environments both at an ECD center as well as at home and relates the two for a better determination of the child's circumstances (World Bank, 2024). World Bank (2024) relates the works of the caregiver to that of the mother. World Bank however, observes that there are other elements missing in the mother that can be found in the caregiver and also some important elements missing in the mother that are available in the caregiver. For a better nurturing care practice, the mother is better placed to provide the motherly care needed by the child. However, the caregiver needs to be used still considering that most of the children are not raised much by the biological parents but rather by other caregivers.

World Bank (2024) highlights that both the parent and the caregiver have similar responsibilities in nurturing the child and creating the conducive learning environment. The bank emphasizes that the John Bowlby theory of attachment comes into play for a strong attachment between the caregiver and the children. The absence of the caregiver in the child-caregiver relationship can lead to depression that eventually affect the child's cognitive development. Caregivers therefore are important in helping children build early relationships that enhances personal and social competences in later life (World Bank, 2024). The caregiver complements and extends the child's capacity. World Bank (2024), argues that the caregiver simplifies and personalizes all the child's experiences so much so that the experiences may occur in a form that the child is able to make use of at their level of development. So, the caregiver is the one that is better placed to understand the child's development and be able to provide the right environment that is rich with experiences (Munsaka et al, 2017).

Well trained caregivers provide psychosocial support to children. At an early learning center, children come in with their different level of emotions depending on how they have been taken care of by their parents before coming to the center (World Bank). It becomes the responsibility of the caregiver at the center to help children manage their emotions and forget them so that they are ready for the day's sessions. So, it takes the skills of the caregiver to manage such children and be able to take them on board for developmental learning experiences (Malawi Government).

Caregivers are the most entrusted to managing children's development. They are expected to provide responsive caregiving so that each child is able to get according to their needs at any stage of their development (World Bank, 2017). Caregivers are responsible for creation of the environment for a smooth and conducive learning. On the other hand, Koch and Franzsen (2017) discovered that there is little impact the training of caregivers can have on the development of children in social and emotional development. The study entitled 'The effect of caregiver training in increasing social interaction and contact time with children living in residential care facilities' was conducted in South Africa because it was found out that in institution care facilities children had minimal interaction with their caregivers. This minimal interaction resulted in children having their emotional needs not met as such they showed cognitive and social delays (Koch et al, 2017). However, most of these caregivers were trained as such people started doubting the impact of these caregiver trainings on the development of children.

When the study was conducted, the results came out to be that there is always little time caregivers have with children as such children have a deficit in the emotional and social development as their needs are never met because of the minimal interaction children have with their caregivers. The social context matters a lot in child development. The interaction children have with their caregivers helps them develop emotionally and learn how to manage their emotions. Children learn how to interact with others in an appropriate way and learn how to share roles and responsibilities from their interaction with both the environment and those in the environment. From the study it was discovered that caregiver training did not change the temporal context or the activity profile related to the amount of time infant and toddlers in residential care facilities spent doing different activities. However, the authors Koch & Frenzsen (2017) acknowledges that caregiver training has the potential to caregivers who were not able to create and improve temporal and social contexts for infants and toddlers in residential care facilities to prevent developmental delays in children.

In developing countries like Malawi, studies have shown that children gain a lot by going to a CBCC (Action Aid, 2021). Children develop different types of skills depending on the type of environment they associate themselves with. Children develop their intellectual capacities from different stimulating environments that come out through play (Muzata, 2021). This therefore entails that children need to be allowed to play with their peers for them to develop intellectually. If a child is associated with children who are good at problem solving or questioning skills the chances are that they are also likely going to develop the skills and use them for their own benefit. Muzata, (2021) argues that children's development is also depended on a number of factors. The social, emotional and physical environment is also key to child's development (Muzata, 2021).

The learning environment includes the learning space as well as the availability of materials used for learning. Above all these the learning environment cannot be complete if there are no teachers. In case of early learning in Malawi the caregivers are used instead of teachers as such the complete early learning environment includes availability of caregivers. A caregiver enhances learning in children in different ways including being a role model to the children. In Malawi, early learning centers takes different shapes. Some centers are standard CBCC purposefully built structures, some are borrowed structures like churches some old unused buildings and some can use bare space under trees (ActionAid, 2021). Regardless of the learning space the presence of a caregiver makes the environment a complete one and guarantees learning. In this case availability of a caregiver has an impact in the development of the child and is considered as one crucial element which is a prerequisite to CBCC establishment. The caregiver who is trained in child development can contribute to the physical and emotional environment in which a child could be placed for their development.

2.3 Chapter Summary

This chapter has looked into what other people have written regarding the impact of trained caregivers in cognitive development. The chapter delved into the nurturing care frame work that guides child care and development, its components and how each of the components link and relate to each other in the cycle of child development. The chapter has also looked at who are the players in the nurturing care framework and how each one of them play out their role. The chapter has also looked at other scholarly work done by others and how they also link to child development especially in cognitive development. The observation in this chapter has shown that a caregiver is at the center of it all. A caregiver plays a pivotal role in linking up all the services a child receives towards nurturing care and also the caregiver looks into how the

provided services become meaningful in the child's development process. The following chapter discusses the methodology used in this study. It centers much on design and the reasons why the methodology was chosen, study population, sampling methodology and sample size, data collection tools and procedures.

CHAPTER THREE: RESEARCH METHODOLOGY

1.0 Overview

This chapter will focus on the methodology that has been used in the study. The chapter will focus on issues like research paradigm, design, sampling methodology, study population, sample size and data collection tool that was used.

3.1 Introduction

Different approaches and methodologies can be used depending on the kind of study and the information required. This chapter provides detailed information regarding the methodologies, the study settings, sampling techniques, targeted population and the analysis techniques that was used to analyze the collected information.

This study followed the positivistic approach to research. The philosophical understanding of the positivistic approach is that knowledge is available out there, and one has to find out about it. Unlike constructivists, who view believes that knowledge is constructed, through experience and social interactions and not just passively acquired, positivists hold that knowledge is derived by reason and logic experience (Creswell, 2012). And it is for this reason that the study was conducted in order for knowledge to be executed.

3.2 Research Paradigm

The researcher of this study believes in the assumption that reality of knowledge is always available out there and so there has to be some means of examining the relationship among variables to get the knowledge (Creswell & Plano Clark, 2011). This research adopted a quantitative approach to data collection. The study falls under the positivistic approach to data collection. The researcher chose this approach because it helps to test the objective theories by examining the relationships among variables (Creswell, 2015) in which case the variable for this study were cognitive development and training of caregivers. It is therefore important that a paradigm is identified first and thus for this study a quantitative method was used.

3.3 Research Design

This study used quantitative methods and approaches to collect the required data. The study followed a Causal Comparative research design. This was so because the study involved studying many relationships at a given time and also it allows to study casual effect relation in an event where subjects are not manipulated like in this study. In this type of study, information was collected from two groups of participants that were not manipulated in any way. The study intended to determine the cause of the pre-existing differences between children cared for by

trained caregivers and those cared for by untrained caregivers. The study attempted to identify the causative relationships between different variables (Supriyono, 2022). For the purposes of this study, exploration of effects was the type of causal comparative design that was followed. In exploration of effects studies, researchers analyse the causal relationship that exists between two different groups and the researcher cannot manipulate the independent variable. In this study the independent variable was the caregivers while the dependent variable was the cognitive skills children displayed. An assessment tool was administered to children in both centers where children whose caregivers were trained and to those whose caregivers were not trained to help in determining the cognitive development level between the two groups.

3.4 Study Population

The population under study in this case was the community-based child care centres' population in Dowa district as well as children therein. According to the district social Welfare office information, there are a total of 545 community based childcare centres. A total population of the children in these centres goes up to 37,945 children (Dowa Social Economic Profile, 2022). In this case, the study had a sample of ECD centres to be reached and also a sample of child participants. The study did not cover the whole district but rather it targeted two traditional authorities. The two authorities were one with the highest number of trained caregivers and the one with the lowest numbers of trained caregivers but both were those with adequate play materials in their ECE centres. This was so to ensure that all children had equal exposure to conducive learning environment. The study population of this study was the 2431 children from the two traditional authorities where the study was carried from.

3.5 Sample and Sampling Methodology

This study being quantitative in nature used probability sampling technique to avoid biases in identification of the participants (Bhattacherjee, 2012). The study specifically used stratified random sampling technique to identify participants from the seven traditional authorities of the district to the CBCCs. The research participants were identified from two different strati of those cared for by trained caregivers and those cared for by untrained caregivers. And finally, a simple random sampling was carried out just at each center to ensure equal representation of the population of the two traditional authorities (Edgar et al, 2017). Based on data collected from Dowa District Social Welfare office which is the secretariat of the District ECD Committee, the study was conducted in the traditional authorities of Mponela as the one with

high numbers of trained caregivers and Chiwere traditional authority as the one with the lowest number of trained caregivers.

Using cluster sampling techniques, the CBCCs in the two traditional authorities were clustered into two, trained and untrained caregivers. The two clusters of trained and untrained where both found in both traditional authorities. However, in each of the two traditional authorities the study visited ten different CBCC centers where children at least eight to ten children were assessed from each center. A random sampling method was applied at each center to identify 8 children amongst the 4-5 age range group. This provided an equal chance for any child to be picked for this study. The CBCCs identified were those centers with adequate play materials in both sets of children just to make sure that children have the same experiences in terms of play materials. The study targeted a total of 60 caregivers. The 60 caregivers that were sampled, were those that received training on Early Childhood Development caregiver training full course. A total of 120 (50 males and 70 females) children within the age range of four to five years underwent cognitive assessment. These 120 children were identified from the twenty Community Based Childcare Centers from Chiwere and Mponela traditional authorities.

3.6 Sample size

A total of 72 caregivers were the ones found in the visited CBCCs as such all of them were given questionnaires for the study.

Table 2: demographic details of the study sample

	Frequency	Percent
Boys	50	41.7
Girls	70	58.3
Total	120	100
Trained caregivers	34	65
Untrained caregivers	28	35
	72	100

3.7 Data Collection tool

An already existing tool on child assessment called Measuring Early Learning and Quality Outcomes (MELQO) was used for child assessment and a simple questionnaire was also used on the caregivers (See appendix II). MELQO is an internationally recognized tool for child

assessment. It was produced jointly by UNESCO, UNICEF and World Bank at Brookings Institution a center for universal education in the United States of America in 2017. The MELQO tool, version 03.28.2017 assesses different aspects of child development that includes early literacy, executive functions, phonological awareness, mathematical skills and many others. The following is the explanation of how the tool was used and what it assessed.

Components of the MELQO child assessment tool

Capturing the child identity number.

When the child gave in the assent an identity number was captured alongside the child's gender and age. If the verbal consent was not obtained the researcher thanked the child and moved on to the next child.

Literacy interest

Using the three pictures of a happy face, neutral face and sad face, the child was asked a few questions which he/she was to respond by pointing at either the sad, happy or neutral face. The responses were coded (1) for neutral face, (2) for happy face, (0) for sad face and (99) if a child didn't know anything.

Expressive language

On expressive language the child was asked to name their body parts. The researcher asked the child to name the body parts which the researcher pointed at. The answers were also coded (1) for correct answers, (0) for incorrect answers and (99) if the child didn't show any response.

Expressive vocabulary

This had two questions and did not have any materials needed. This component was looking for anything the child eats and any animals they know. As the child is mentioning the animals, the researcher was recording and could stop at ten animals. So here the highest number of items mentioned was recorded both for question one and two separately and (99) was recorded if a child failed to mention any.

Letter identification

This component needed letters and a blank sheet of paper. The child was asked to point at alphabet letters and mention what they are called. Each column had 8 letters to identify. The

answers were also coded as (1) for correct answer and (0) for incorrect answer while (99) was used if a child didn't do anything on this.

Listening comprehension story

On this component children were assessed using a story that the researcher narrated to each child after which some questions were asked based on the story. Eight questions were administered and the answered were coded as (1) for correct and (0) for incorrect and 99 for void answers.

Name writing

The child was asked to write their name. If the child could not write anything after one minute or kept writing for more than two minutes this was coded as (99) while any correct name writing or incorrect order of letters were regarded as correct and was coded (1) while (0) was for incorrect. Incorrect was for any none symbols or symbol like letters that do not make sense.

Copying

The researcher gave the child a pencil and sheet of paper with drawings of shapes on it. Each child was asked to copy by drawing the already drawn picture under the original one. The answers were also coded as (2) for the correct answers in all shapes, (1) for missing one criterion and (0) for missing more than one and (99) for failing to do anything.

Receptive special vocabulary

The researcher was then asking then child to point at a picture which has a ball either besides, under, in or on the box. Equally the answers were recorded (1) for correct, (0) for incorrect and (99) for any response that doesn't make sense.

Verbal counting

This assessment needed no materials because only about asking the child to verbally count number up to the maximum of 30. The purpose was to see how high they can count. Answers were also coded by the highest number the child had gone and (99) for failing to do anything.

Producing a set

Here the researcher had 20 uniformly sized items that were used as counters. This component had three tasks to be done. The first was to ask the child to hand or push over three items, six

and 14 items and the answers were coded as (1) for correct answers, (0) for incorrect and (99) for not knowing what to do.

Number identification

The researcher pointed at numbers and the child mention which numbers they were. The shit of two columns had five digits numbers each column to be identified. The code for the answers were (1) for correct answer and (0) for incorrect answers while (99) for not knowing anything.

Forward digit span

The researcher advises the child to repeat after him and should try to say it as exact as the researcher says. For instance, the researcher says 7…8, 6…1…3, 1….2…4…7…3… etc. the coding for the answers was (1) for correct answer, (0) for incorrect and (99) for no response.

Pencil tap

The researcher tells the child to listen each time the researcher taps. If the researcher taps once the child should tap twice and when the researcher taps twice the child should tap once. The researcher does this game with the child for as many as 16 times. The answers are also coded (1) for correct, (0) for incorrect and (99) for failure to try and/or having no interest to do.

3.8 Data Collection Procedure

The process of data collection began with seeking clearance from the university of Zambia from which an introductory letter was provided by the ethics committee (Appendix V). This introductory letter was taken to the District Commissioner in Dowa district in Malawi. The Commissioner having looked at all documents gave his approval for data collection. Through the ECD community facilitators, the researcher sought entry point into the communities where the leadership both at community and was notified before seeking consent from the parents for assessment of the children.

The researcher then engaged the leadership of ECD centers to mobilize parents and their children especially those shortlisted to be assessed. Before commencement of assessment on each day the researcher made sure stimulus items were made available for the exercise so that no time is wasted looking for items for the assessment. As the assessment tool was long enough for almost 45 minutes. Because of the long sessions of assessment, the researcher engaged the children on a break for a few minutes in between the sessions.

3.9 Validity and Reliability

Validity has to do with whether your methods, approaches and techniques actually relate to, or measure, the issues you have been exploring (Mukherji et al, 2018). It is important that the methodology and materials used in a study should help to measure the things as intended. Reliability, involves choosing measures that demonstrate consistency and replicability over time, over instruments and over groups of respondents (Cohen et al, 2011). For purposes of validity and reliability the study, used a child assessment tool that is recognised and whose reliability and validity has remained acceptable over time. Care was taken in the whole process of sample selection and data analysis to ensure results remain valid and reliable overtime. Measuring Early Learning and Quality Outcomes (MELQO) is an internationally recognized tool on child assessment and a reliability test on p value of <0.05. Changes made were minor like translation of the story into the local language (Chichewa) for the children's better understanding of the story. The tool has been used in different projects in both Zanzibar and mainland Tanzania by government in an effort to assess children aged 4-6 years in pre-primary class (Republic of Tanzania, 2017). Further to this, the tool was also used to assess children in Ethiopia where they were trying to assess whether children from early learning centers were indeed ready for a primary school. A prior arrangement was made on the different animals that are locally found in the area just to make sure it relates well with the context in which the study was conducted. Reliability in quantitative studies involves choosing measures that demonstrate consistency overtime. The study made sure that there was consistency on use of tools and made sure it was maintained to get reliability of results.

3.10 Data Analysis

The collected data was analysed with the statistical package for social sciences (SPSS). For the demographics, descriptive statistics was used. This was exhibited using frequency distribution tables because demographic data was measured at nominal scale. T-tests were run on data for both objectives two and three in order to statistically compare the means of the two groups of children to determine whether there is any significance difference between the two groups of children cared for by trained and untrained caregivers. This was done because the groups of caregivers were dichotomous and the test was measuring their differences on the dependent variables. On the fourth objective, linear regression was used since the study was trying to determine whether trained caregivers have got an impact on the cognitive development of children or not; and because trained caregivers and cognitive development of children variables were measured at scale level (Cohen, Manion, Morrison, 2007).

3.11 Ethical Consideration.

As stated earlier, before conducting all these activities in district level, the researcher sought ethical clearance through the University of Zambia (See appendix VI). At district level, the district council also provided clearance that was used to collect data in various community based childcare centres. Before data was collected, the researcher engaged parents and guardians for their consent (Appendix iv)). The researcher was further responsible to protect and secure the information collected as was only meant for education purposes. However, despite having secure a consent from the parents, during the child assessment sessions, children were asked for their assent and were told about their rights regarding the study and were also assured that data collected will be kept under confidentiality principles.

3.12 Chapter Summary

The chapter focused much on the methodology that was used in the study. As a quantitative study under positivistic approach used a cross-section design which helped to collect data at one point in time. The variables in this study were observed without any manipulation hence providing accurate required information. The chapter has also delved on the data collection procedures and tools that were used to collect the required data. Data collection tools have been carefully elucidated to meet the expected results. Analysing data is one crucial element in a study and so this chapter has also tackled thoroughly on how the collected data in this study was analysed. The chapter that follows provides the findings of the study. It gives a detailed information regarding how assessed children differed between those cared for by trained and untrained caregivers.

CHAPTER FOUR: PRESENTATION OF RESULTS

4.0 Overview

This chapter presents the findings of the study based on the data collected from caregivers in community-based childcare centers in Dowa District. It includes an analysis of the responses to highlight the impact of caregiver training on children's cognitive, social, and emotional development. The findings are organized according to the study objectives and supported by tables, figures, and statistical summaries to provide a clear understanding of the results.

4.1 Demographic characteristics of participants

This section provides an overview of the demographic characteristics of the caregivers who participated in the study. It includes details such as their training status, work experience, and distribution across the community-based childcare centers.

Table 4. 1 Demographics of the study participants

	Frequency	**Percent (%)**
Boys	50	41.7 %
Girls	70	58.3 %
Total	120	100%
Cared for by trained caregivers	60	50.0%
Cared for by untrained Caregivers	60	50.0%
Total	120	100.0%

The demographic data shows that the study included 120 children within the age ranges of four to five (4-5 years), with 58.3% being girls and 41.7% boys. An equal number of children (50.0%) were cared for by trained and untrained caregivers, ensuring a balanced comparison between the two groups in assessing the impact of caregiver training on cognitive development.

Care Givers

The study involved 72 caregivers drawn from 11 community-based childcare centres located within the two traditional authorities of Mponela and Chiwere in Dowa District. Participants included both trained and untrained caregivers, with varying levels of work experience. The

figure below provides a statistical representation of the caregivers' distribution based on their training status.

Figure 4.1 Duration of training for the trained caregivers

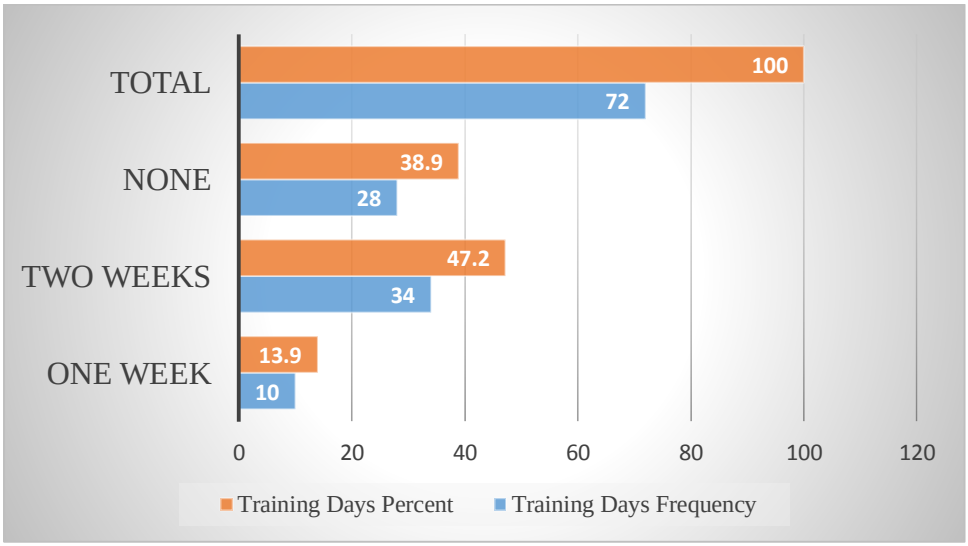


Figure 4.1 illustrates the type of training received by the trained caregivers involved in the study. The data reveals variations in the duration of training, with some caregivers completing a full 14-day training program, while others underwent a shorter, one-week training. These differences in training duration provide a basis for examining whether the length of training influences the effectiveness of caregiver practices and their impact on children's cognitive development.

Figure 4. 2 Work experience

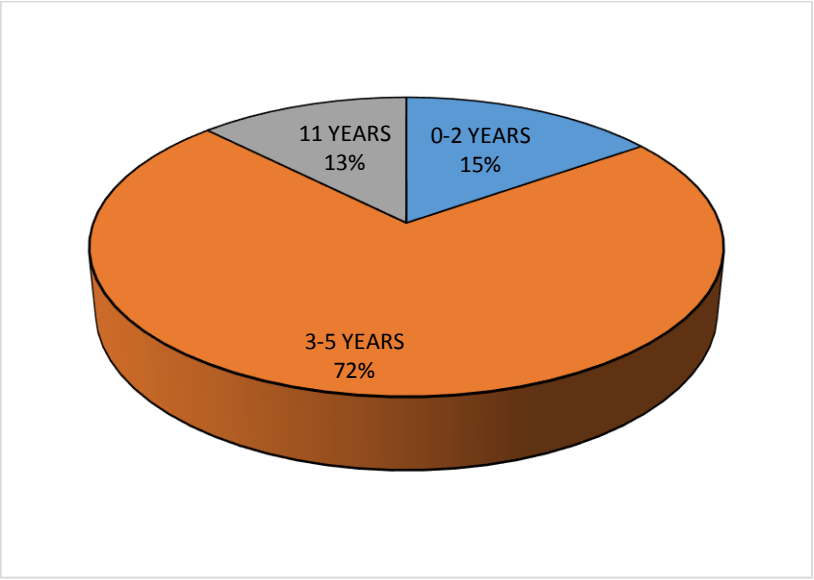


Figure 4.2 presents the work experience of caregivers who participated in the study. The data indicates that caregiver experience ranged from 2 to 11 years. The majority of caregivers had 3 to 5 years of experience, suggesting a moderate level of familiarity with childcare practices.

4.2 Children's competencies in language and literacy in CBCCs both managed by trained caregivers and untrained caregivers

This section presents findings on the language and literacy competencies of children aged 4–5 years in CBCCs in Dowa District, Malawi. The analysis compares the performance of children attending CBCCs managed by trained caregivers with those managed by untrained caregivers.

Findings from caregivers

The study established that caregivers believe that if children are placed in the hand of trained caregivers there are higher chances that the future generation will be made up of people who are intelligent, who have better social interactions, improved social relations, people with better education outcomes, good social -economic development, better families and increased better human capital. The table below shows statistical inferences on caregivers' training:

Table 4. 2 Statistical inferences of caregiver training

Codes	Frequency	Percent %	Valid Percent %
14	1	1.4	1.4
23	1	1.4	1.4
1234	2	2.8	2.8
12345	1	1.4	1.4
12456	1	1.4	1.4
13456	2	2.8	2.8
123456	1	1.4	1.4
1234567	63	87.5	87.5
Total	72	100	100

Key: 1=good memory,2=better social interactions, 3=improved social relations, 4=better education outcomes, 5=social economic development, 6=better families, 7=increased human capital

The findings from Table 4.2 reveal how caregiver training positively influences children's development in language and literacy. The codes represent key areas of growth facilitated by trained caregivers.

Code 7 (Increased human capital)

This code was the most prominent, with 87.5% of the responses linked to it. It indicates that trained caregivers significantly contribute to improving children's overall skills and abilities, including language and literacy. The strong emphasis on human capital suggests that trained caregivers help children acquire foundational knowledge and communication skills that prepare them for future success.

Code 1 (good memory)

This was observed at a frequency of 1.4%, showing that trained caregivers also play a role in nurturing cognitive abilities like problem-solving and critical thinking, which are crucial for language comprehension and literacy.

Other codes (Codes 2–6)

These codes covered social interactions, better education outcomes, and family improvements but were reported less frequently (1.4%–2.8%). However, they still highlight additional benefits provided by trained caregivers, such as fostering environments that encourage early reading, vocabulary development, and improved communication skills.

In summary, the analysis demonstrates that CBCCs with trained caregivers are more effective in promoting children's language and literacy development compared to those with untrained caregivers. The high percentage of responses linked to increased human capital emphasizes the importance of training in equipping caregivers to deliver quality education and stimulate cognitive growth.

4.2.1 Barriers to better Early Childhood Education

When caregivers were asked to identify some of the barriers to better early childhood education, a number of barriers were mention as shown in the table below:

Table 4.3 Barriers to better early childhood education identified by caregivers

Barrier	Frequency	Percentage (%)	Description
Parental support	1	0.7	Limited involvement or support from parents in early childhood education.
Unavailability of play materials	1	0.7	Insufficient resources for play and learning activities.
Lack of caregiver creativity	18	25.0	Limited innovative approaches to engage children in learning.
Unexperienced caregivers	18	25.0	Caregivers with inadequate training or experience.
Lack of good structure	18	25.0	Poorly organized childcare facilities.
Incompetent parent committees	9	12.5	Weak support systems from parent committees managing CBCCs.
Lack of play-based approaches	7	9.7	Minimal use of interactive, child-centered teaching methods.

The study found that a majority of caregivers (98.6%) identified significant barriers to improving early childhood education. This included lack of caregiver creativity, unexperienced caregivers, poor infrastructure, and lack of play-based approaches, which collectively constituted the highest proportions, ranging from 9.7% to 25%. A smaller percentage (1.4%) of caregivers mentioned barriers such as parental support and unavailability of play materials.

4.3 Children's socio-emotional development in both CBCCs managed by trained and untrained caregivers.

The second objective was to assess the children's socio-emotional development in both CBCCs managed by trained and untrained caregivers. This section presents findings on this objective. The analysis explores key aspects such as literacy interest, expressive language, letter identification, among other social and emotional development. The findings are presented in the table below:

Table 4.4 Descriptive and inferential Statistics for Children's Cognitive achievement by type of caregiver

SUBTEST	TRAINED CAREGIVER	*M*	*SD*	*SEM*	*t*	*P*
Literacy interest	Trained caregivers	5.87	1.23	0.16	-2.85	.005
	Untrained Caregivers	7.22	3.46	0.45	-2.85	0.006
Expressive language	Trained caregivers	5.67	0.88	0.11	-1.76	.08
	Untrained Caregivers	6.03	1.35	0.17	-1.76	0.8
Letter Identification	Trained caregivers	29.02	7.66	0.99	-3.16	.002
	Untrained Caregivers	33.95	9.33	1.20	-3.16	0.002
Listening comprehension Story	Trained caregivers	5.78	0.99	0.13	-4.06	0.0
	Untrained Caregivers	6.83	1.74	0.22	-4.06	0.0
name as many things as you can	Trained caregivers	7.85	2.37	0.31	3.93	0.0
	Untrained Caregivers	6.12	2.46	0.32	3.93	0.0
Name animals you know	Trained caregivers	9.40	12.02	1.55	2.15	.033
	Untrained Caregivers	6.00	2.22	0.29	2.15	0.35
write your name	Trained caregivers	9.87	27.11	3.50	-2.01	0.04
	Untrained Caregivers	22.83	40.40	5.22	-2.065	0.04
how it was written	Trained caregivers	2.10	1.00	0.13	-.49	0.62
	Untrained Caregivers	2.20	1.20	0.16	-.49	0.62
Copying shapes	Trained caregivers	3.40	1.44	0.19	2.53	0.013
	Untrained Caregivers	2.60	1.98	0.26	2.53	0.013
Receptive Spatial Vocabulary	Trained caregivers	3.37	0.84	0.11	2.45	0.02
	Untrained Caregivers	2.88	1.28	0.16	2.45	0.02
Ability to count to 30	Trained caregivers	14.28	6.02	0.78	4.38	0.00
	Untrained Caregivers	10.07	4.41	0.57	4.38	0.00
producing a set	Trained caregivers	2.37	0.64	0.08	5.00	0.00
	Untrained Caregivers	1.67	0.88	0.11	5.00	0.00
Number Identification	Trained caregivers	4.87	3.87	0.50	5.26	0.00
	Untrained Caregivers	1.77	2.42	0.31	5.26	0.00
Forwards digit span (WM)	Trained caregivers	2.78	1.03	0.13	2.21	0.03
	Untrained Caregivers	2.27	1.49	0.19	2.21	0.03
Pencil-Tapping (EF)	Trained caregivers	11.87	4.20	0.54	7.33	0.00
	Untrained Caregivers	5.57	5.16	0.67	7.33	0.00

Literacy Interest

The study found that children in CBCCs managed by untrained caregivers showed a higher level of interest in letters compared to those in centres managed by trained caregivers. When

asked how they felt about activities like listening to stories, looking at pictures in books, telling stories, and drawing, children's responses were measured using happy, neutral, and sad face animations. Statistical analysis using a two-sample t-test revealed that children cared for by untrained caregivers had a higher average score for literacy interest ($M = 7.22$, $SD = 3.46$). This difference was statistically significant ($t(1, 118) = -2.85$, $p < 0.05$), meaning the results are unlikely due to chance. These findings suggest that, in this area, untrained caregivers were more effective in fostering children's interest in literacy-related activities than their trained counterparts. In this case the results rejected the hypothesis the hypothesis that trained caregivers will help children develop optimally in social-emotional, language and cognitive skills. Here it is observed that even untrained caregivers were more impactful than their counterparts in children's language development.

Expressive Language

The study also discovered that children in CBCCs managed by untrained caregivers showed a better ability to name body parts compared to those in centres managed by trained caregivers. During the assessment, the researcher asked children to identify visible body parts, such as the head, neck, ear, eye, finger, leg, foot, nose, and chin. The statistical analysis using a two-sample t-test showed that children cared for by untrained caregivers had a higher average score for expressive language ($M = 6.22$, $SD = 1.35$) compared to those cared for by trained caregivers ($M = 5.67$, $SD = 0.88$). This difference was statistically significant ($t(1, 118) = -1.76$, $p < 0.08$), indicating that untrained caregivers were more effective in helping children develop expressive language skills in this area. The results here also reject the hypothesis that trained caregivers will help children do well in language, social-emotional and cognitive development skills. Here it is observed that even untrained caregivers can help children develop language skills better than the trained ones.

Expressive Vocabulary

In this study, it was found that children's ability to name items they eat and animals from their local area varied based on whether their caregivers were trained or untrained. In this assessment, children were asked to list as many foods as they could think of and name animals commonly found in their surroundings. The researcher used a prepared checklist of foods and animals expected from the area to verify the children's answers. The findings revealed differences in expressive vocabulary skills between children taught by trained and untrained caregivers. However, detailed statistical results were not provided in this description. These

observations suggest that caregiver training may influence children's ability to expand their vocabulary, especially in relation to their everyday environment.

Letter Identification

Children cared for by untrained caregivers performed better in letter identification (M = 33.95) compared to those cared for by trained caregivers (M = 29.02). The result was statistically significant (p = 0.002), indicating that untrained caregivers may help children with better letter recognition. Based on the findings in this component it is observed that untrained caregivers were able to help children know and identify letters much better than the trained caregivers rejecting the earlier mentioned hypothesis which is assuming that trained caregivers will help children much better in the development of social-emotional, language and cognitive skills.

Listening Comprehension

Children with untrained caregivers also performed better in listening comprehension (M = 6.83) compared to those with trained caregivers (M = 5.78). This difference was statistically significant (p = 0.0), suggesting that untrained caregivers may have a more positive impact on children's ability to understand stories. The findings also reject the hypothesis that assumes that trained caregivers will help children develop social-emotional, language and cognitive skills. In the findings, children cared for by untrained caregivers demonstrated good language development skills.

Name as many things as you can

When asked to name things they eat, children of trained caregivers (M = 7.85) performed better than those of untrained caregivers (M = 6.12). This difference was statistically significant (p = 0.0), showing that trained caregivers have a more positive impact on children's ability to recall items. Based on these findings in this component the hypothesis is then accepted to say trained caregivers are expected to help children listen and comprehend stories much better than their counterparts.

Name animals you know

Children cared for by trained caregivers named more animals (M = 9.40) than those cared for by untrained caregivers (M = 6.00). This difference was statistically significant (p = 0.033), suggesting that trained caregivers help children develop better knowledge of animals. Just like in the previous component where a hypothesis was accepted, in this component the hypothesis

that trained caregivers can help children develop social-emotional, language and cognitive skills was also accepted. Here the results show that trained caregivers are those that can help children know and name animals more than children cared for by untrained caregivers.

Write your name

Children cared for by untrained caregivers wrote their names better (M = 22.83) compared to those with trained caregivers (M = 9.87). The difference was statistically significant (p = 0.04), indicating that untrained caregivers may have a stronger influence on children's writing ability. The hypothesis that trained caregivers are more impactful in social-emotional, language and cognitive skills is rejected here. It is observed that children cared for by untrained caregivers were more able to write their names unlike children cared for by trained caregivers. This is against the hypothesis that suggest the opposite.

How it was written

There was no significant difference in how well children wrote their names between trained caregivers (M = 2.10) and untrained caregivers (M = 2.20). The result was not statistically significant (p = 0.62), meaning caregiver training did not appear to influence this aspect of writing. In this case, there was no statistical significance that was observed reflecting that caregiver did not seem to have an influence on how well children wrote their names. The hypothesis that assumed that trained caregivers can help in the development of social-emotion, language and cognitive skills was neither rejected nor accepted in this component.

Copying Shapes

Children cared for by trained caregivers (M = 3.40) performed better in copying shapes than those with untrained caregivers (M = 2.60). This difference was statistically significant (p = 0.013), suggesting that trained caregivers help children improve their shape-copying skills. There was an acceptance of the hypothesis that says trained caregivers are better placed development of children's social-emotional, language, and cognitive skills. In this component, as it was observed that trained caregivers had an influence in helping children copy shapes correctly.

Receptive Spatial Vocabulary

Children with trained caregivers (M = 3.37) had better receptive spatial vocabulary compared to those with untrained caregivers (M = 2.88). The difference was statistically significant (p =

0.02), indicating that trained caregivers positively impact children's understanding of spatial concepts. The children cared for by trained caregivers' performance proved that trained caregivers are more impactful in helping children understand the concept hence accepting the hypothesis that trained caregivers are more impactful in social-emotional, language and cognitive skills for.

Ability to count up to 30

Children cared for by trained caregivers (M = 14.28) were able to count to 30 better than those with untrained caregivers (M = 10.07). This difference was statistically significant (p = 0.00), suggesting that trained caregivers help children develop better counting skills. Children showed better counting skills and this behavior accepts the hypothesis of the study that trained caregivers can help children develop cognitive, language and social-emotional skills.

Producing a Set

Children of trained caregivers (M = 2.37) performed better in producing a set compared to those with untrained caregivers (M = 1.67). This difference was statistically significant (p = 0.00), showing that trained caregivers support children in developing cognitive flexibility. In this component also, children cared for by trained caregivers performed better. The findings of this component accepted the study hypothesis which assumed that trained caregivers can help children develop social-emotional, language and cognitive skills. Here caregivers were more helpful in helping children produce sets.

Number Identification

Children cared for by trained caregivers (M = 4.87) identified numbers better than those with untrained caregivers (M = 1.77). The difference was statistically significant (p = 0.00), indicating that trained caregivers enhance children's ability to recognize numbers. The test results here also accepted the study hypothesis that trained caregivers can help children develop social-emotional, language and cognitive skills. In this component trained caregivers enhanced the ability of children in number recognition.

Forwards Digit Span (Working Memory)

Children cared for by trained caregivers (M = 2.78) performed better on the forwards digit span task than those with untrained caregivers (M = 2.27). This difference was statistically significant (p = 0.03), suggesting that trained caregivers positively influence working memory

skills. Just as it was on the previous component so too is this component. The hypothesis of the study that trained caregivers can help children develop social-emotional, language and cognitive skills was accepted in this component. Trained caregivers can influence working memory skills.

Pencil-Tapping (Executive Function)

Children cared for by trained caregivers (M = 11.87) performed better on the pencil-tapping test (measuring executive function) compared to those with untrained caregivers (M = 5.57). This difference was statistically significant (p = 0.00), indicating that trained caregivers have a positive impact on executive functioning. The t-test results here also agree with the hypothesis of the study that suggests that trained caregivers can help children develop social-emotional, language and cognitive developmental skills. The results here suggest that trained caregivers have positive impact on executive functioning.

Overall, the study shows that children cared for by trained caregivers generally performed better in most cognitive tasks such as number identification, shape copying, and executive function. However, untrained caregivers had a more significant impact on children's literacy interest and letter identification.

4.4 The effect of Trained Caregivers on Cognitive Development

This section presents the findings on the third objective of the study which sought to examine the effects of trained caregivers on cognitive development of children aged 4-5 years in community based childcare centers in Dowa district.

Table 4.5 The effect of trained caregivers on cognitive development

SUBTEST	TRAINED CAREGIVER	M	SD	t	P
Knowledge in Naming	Trained Caregiver	7.85	2.37	3.93	< 0.00
Letter Identification	Untrained Caregiver	33.95	9.33	-3.16	< 0.02
Listening Comprehension	Untrained Caregiver	6.83	1.74	-4.06	< 0.00
Name Writing	Untrained Caregiver	22.83	40.4	-2.01	< 0.04
Copying Shapes	Trained Caregiver	3.40	1.44	2.53	< 0.13
Receptive Spatial Vocabulary	Trained Caregiver	3.37	0.84	2.45	< 0.02
Verbal Counting	Trained Caregiver	14.28	6.02	4.38	< 0.00
Producing a Set	Trained Caregiver	2.37	0.64	5.00	< 0.00
Number Identification	Trained Caregiver	4.87	3.87	5.3	< 0.00
Forward Digit Span	Trained Caregiver	2.78	1.03	7.33	< 0.03
Pencil Tapping	Trained Caregiver	11.87	4.2	7.33	< 0.00

Knowledge in naming

The study found that trained caregivers have a significant positive effect on children's cognitive development, particularly in the area of naming. Children cared for by trained caregivers demonstrated higher knowledge in naming various items. Specifically, children taught by trained caregivers were able to name more edible items from their area (M = 7.85, SD = 2.37) compared to those cared for by untrained caregivers (M = 6.12, SD = 2.46). Furthermore, in

naming animals whose meat is edible, children under the care of trained caregivers exhibited superior knowledge (M = 9.40, SD = 12.02) compared to their peers whose caregivers were untrained (M = 6.00, SD = 2.22). This difference was statistically significant (t (1, 118) = 3.93, p < 0.00), suggesting that the training of caregivers has a considerable impact on the cognitive development of children in terms of naming objects and animals, highlighting the importance of trained caregivers in enhancing children's knowledge in this domain. The study hypothesis was that trained caregivers are capable of impacting positively in children's social-motional, language and cognitive development was accepted in this regard.

Letter Identification

The study found that children cared for by untrained caregivers demonstrated a higher level of knowledge in identifying and naming alphabet letters compared to those cared for by trained caregivers. Specifically, children under the care of untrained caregivers scored higher on the alphabet identification task (M = 33.95, SD = 9.33) than children cared for by trained caregivers (M = 29.02, SD = 7.66). This difference was statistically significant (t (1, 118) = -3.16, p < 0.02), suggesting that, despite receiving formal training in caregiving, children cared for by trained caregivers performed less well than those cared for by untrained caregivers in the area of letter identification. This finding highlights the potential impact of caregiver training on children's cognitive development in recognizing alphabet letters which accepts the study hypothesis that assumes that trained caregivers can influence social-emotional, language ad cognitive skills development.

Listening Comprehension story

The study found that children cared for by untrained caregivers exhibited a higher level of listening comprehension skills compared to those cared for by trained caregivers. Specifically, children under the care of untrained caregivers scored higher in comprehending a story read to them (M = 6.83, SD = 1.74) than those cared for by trained caregivers (M = 5.78, SD = 0.99). This difference was statistically significant (t (1, 118) = -4.06, p < 0.00), suggesting that, despite the training received by caregivers, the performance of children in listening comprehension was more positively influenced by untrained caregivers. These findings align with the results from the literacy interest component, further indicating the impact of caregiver training on children's cognitive development in this area rejecting the study hypothesis which suggested that trained caregivers can have a positive influence social-emotion, language and cognitive skills development.

Name writing

The study found that children cared for by untrained caregivers exhibited a higher level of interest and ability in name writing compared to children cared for by trained caregivers. Specifically, children under the care of untrained caregivers scored higher on the name writing task (M = 22.83, SD = 40.4) compared to those cared for by trained caregivers (M = 9.87, SD = 27.22). This difference in performance was statistically significant (t (1, 118) = -2.01, $p < 0.04$), suggesting that despite receiving formal training in caregiving, children cared for by trained caregivers performed less well than those cared for by untrained caregivers in the area of name writing. This finding indicates that caregiver training may not necessarily translate into better cognitive development outcomes in name writing for children hence rejecting the hypothesis that trained caregivers can help children develop social-emotion, language and cognitive skills which as presented earlier.

Copying Shapes

The study found that the training of caregivers had a positive impact on children's cognitive development in the area of copying shapes. Children cared for by trained caregivers (M=3.40, SD=1.44) demonstrated greater accuracy in copying shapes compared to those cared for by untrained caregivers (M=2.6, SD=1.98). This difference in performance was statistically significant (t(1, 118) = 2.53, $p < 0.13$), indicating that the caregiver training contributed to better cognitive outcomes in tasks requiring shape copying. The findings suggest that trained caregivers play an important role in enhancing children's cognitive abilities, particularly in structured activities such as copying shapes. The hypothesis that trained caregivers can influence children's social-emotional, language and cognitive skills in this case was accepted as it was believed that trained caregivers influenced the copying skills

Receptive Spatial Vocabulary

The study found that children cared for by trained caregivers demonstrated a higher level of understanding of spatial concepts, as measured by their ability to identify the location of a ball in relation to a box (e.g., in, on, besides, under). Specifically, children under the care of trained caregivers scored higher on the Receptive Spatial Vocabulary task (M = 3.37, SD = 0.84) compared to those cared for by untrained caregivers (M = 2.88, SD = 1.28). The hypothesis in this component was also accepted. The difference in means was statistically significant (t (1, 118) = 2.45, $p < 0.02$), suggesting that trained caregivers have a positive impact on children's

social-emotion, language and cognitive development. Trained caregivers are impactful in understanding spatial vocabulary in children.

Verbal Counting

The study found that children cared for by trained caregivers demonstrated a higher level of verbal counting ability compared to children cared for by untrained caregivers. Specifically, children under the care of trained caregivers were able to count further, with a mean of 14.28 (SD = 6.02), while children cared for by untrained caregivers counted up to a mean of 10.07 (SD = 4.41). The difference in means was statistically significant ($t(1, 118) = 4.38$, $p < 0.00$), indicating that trained caregivers positively influenced children's cognitive development in the area of verbal counting. As children cared for by trained caregivers outperformed their counterparts, hypothesis assuming that trained caregivers can help children develop social-emotional, language and cognitive skills was accepted. Trained teachers have an influence in children's verbal counting.

Producing a Set

The study found that children cared for by trained caregivers demonstrated a better understanding of producing sets and sorting objects compared to children cared for by untrained caregivers. Specifically, children under the care of trained caregivers produced sets and sorted objects with a mean score of 2.37 (SD = 0.64), while children cared for by untrained caregivers had a mean score of 1.67 (SD = 0.88). This difference was statistically significant ($t (1, 118) = 5.0$, $p < 0.00$), suggesting that trained caregivers have a greater positive impact on children's cognitive development in the area of sorting and producing sets. Producing a set was a more complex activity for children to do. In this exercise however, the hypothesis that trained caregivers can help children develop social-emotional, language and cognitive skills was accepted by how children cared for by trained caregivers outperformed those cared for by untrained caregivers.

Number Identification

The study found that children cared for by trained caregivers demonstrated a higher level of ability in number identification compared to children cared for by untrained caregivers. Specifically, children under the care of trained caregivers correctly identified numbers with a mean score of 4.87 (SD = 3.87), while those cared for by untrained caregivers had a mean score of 1.77 (SD = 2.42). This difference was statistically significant ($t (1, 118) = 5.3$, $p < 0.00$),

suggesting that the skills and training of caregivers had a positive impact on the children's cognitive development in number identification. This aspect also confirmed the fact that trained caregivers are more impactful in number identification hence accepting the hypothesis that trained caregivers can help children develop social-emotion, language and cognitive skills.

Forward Digit Span

The study found that children cared for by trained caregivers performed slightly better in the Forward Digit Span task compared to those cared for by untrained caregivers. Children under the care of trained caregivers had a mean score of 2.78 (SD = 1.03), while those cared for by untrained caregivers had a mean score of 2.77 (SD = 1.49). The difference between the two groups was statistically significant ($t(1, 118) = 7.33$, $p < 0.03$), indicating that the trained caregivers positively impacted the children's working memory and ability to recall numbers in the same order. The digit span whose aim was to observe the children's working memory also proved to accept the hypothesis which stated that trained caregivers can help children develop social-emotional, language and cognitive skills. This was observed by indicating that children cared for by trained caregivers outperformed children cared for by untrained caregivers.

Pencil Tapping

The study found that children cared for by trained caregivers performed significantly better in the Pencil Tapping task compared to those cared for by untrained caregivers. Children under the care of trained caregivers had a mean score of 11.87 (SD = 4.2), while those under the care of untrained caregivers had a mean score of 5.57 (SD = 5.16). The mean difference was statistically significant ($t(1, 118) = 7.33$, $p < 0.00$), indicating that trained caregivers had a greater positive impact on the children's executive functions, specifically in tasks requiring attention and coordination.Pencil tapping was for children's executive functioning assessment and the results accepted the hypothesis of the study which states that trained caregivers can help children develop social-emotional, language and cognitive skills.

4.5 Chapter Summary

The chapter presented the findings on the study's objectives. The first objective focused on examining the children's competencies in language and literacy in community-based childcare centres (CBCCs) managed by both trained and untrained caregivers. In this objective some components rejected the hypothesis while others accepted the hypothesis which was assuming that trained caregivers can influence development of social-emotional, language and cognitive skills in children. The second objective assessed the children's social and emotional

development in these CBCCs and only two components were assessed under this. One rejected the hypothesis while the other one accepted the hypothesis. The third objective investigated the effects of trained caregivers on the cognitive development of children aged 4-5 years in CBCCs in Dowa district. Under this objective, children were assessed in six subcomponents and in five the components, the hypothesis stating that trained caregivers can influence children's social-emotional, language and cognitive skills was accepted and rejected in one subcomponent. The chapter highlighted the results and analysis for each of these areas. The chapter that follows will discuss the findings that have been presented in this chapter by comparing results and relating them to the literature available.

CHAPTER FIVE: DISCUSSION OF RESEARCH FINDINGS

5.0 Overview

This chapter discusses the key findings of the study in relation to the research objectives and existing literature. It highlights the differences in cognitive development, language, literacy, and social-emotional skills among children cared for by trained and untrained caregivers in community-based childcare centers in Dowa District. The chapter also examines how caregiver training impacts children's overall development. The findings are interpreted to provide a clear understanding of their significance and implications for improving early childcare practices.

5.1 Children's competencies in language and literacy in CBCCs both managed by trained caregivers and untrained caregivers

The study in table 4.2 found that caregivers believe that children's competencies in language and literacy in CBCCs increase when managed by trained caregivers, showing a significant positive impact on children's development, particularly in language and literacy. The majority of responses (87.5%) highlighted that trained caregivers contribute to increased human capital, meaning they help children develop important skills for future success. A smaller percentage of responses pointed to other benefits, such as improved social interactions, better education outcomes, and better families. Overall, the findings suggest that CBCCs with trained caregivers are more effective in supporting children's competencies in language and literacy, making them better prepared for future challenges.

The study's findings demonstrate that caregivers strongly believe children's language and literacy skills improve when managed by trained caregivers. According to a study by Smith et al. (2019), trained caregivers are more effective in creating a structured and engaging learning environment, which is essential for developing early language skills. In this study, caregivers with training showed a greater ability to implement strategies that promoted language acquisition, including reading aloud, storytelling, and other verbal interactions. This aligns with the current study's finding that trained caregivers significantly enhance children's competencies in language and literacy, which are critical for academic success later in life.

The finding that 87.5% of responses pointed to "increased human capital" suggests that caregivers recognize the long-term benefits of early childhood education. According to Johnson and Lee (2020), when caregivers are trained, they help children build foundational cognitive skills such as problem-solving and critical thinking, which are essential for future learning.

These skills are not only important for academic achievement but also for personal development and adaptability in an increasingly complex world. Trained caregivers are able to introduce these cognitive tools at an early age, setting children up for future success in school and in life.

The study also highlights the significant contribution of trained caregivers to improved social interactions. According to Perez and Walker (2019), caregivers who are well-trained are better equipped to foster social-emotional skills in children. They are able to create a nurturing environment where children feel comfortable interacting with their peers, which is crucial for building strong social relationships. In addition, trained caregivers are more adept at guiding children in conflict resolution, emotional regulation, and positive communication skills. These social skills are foundational for success in school and beyond, as they influence a child's ability to cooperate, share, and communicate effectively in various social settings. In addition to language and literacy, the study found that trained caregivers contribute to better educational outcomes. A study by Davis and Garcia (2020) shows that early childhood education programs led by trained caregivers result in better school readiness, higher academic performance, and fewer learning gaps as children transition into formal schooling. The research also notes that children in such programs demonstrate a greater enthusiasm for learning and more positive attitudes toward education. The implication of these findings is that investing in the training of caregivers directly benefits the child’s future educational experiences, preparing them for higher levels of achievement.

While the primary benefit of trained caregivers highlighted in the study was in language and literacy development, the study also pointed out that trained caregivers contribute to better family outcomes. According to Martin and Ross (2018), caregivers with professional training are better at engaging parents in the educational process. This involvement ensures that children receive consistent support both at home and at the care center. By establishing a strong partnership between caregivers and parents, trained caregivers create a holistic support system that enhances the child’s development. Furthermore, this collaboration helps parents understand their child’s developmental needs and how they can support their learning outside the formal education setting.

The implications of these findings are profound. According to a report by Wilson et al. (2019), investing in the training of caregivers is one of the most effective strategies for improving early childhood education outcomes. Trained caregivers are not only more effective at promoting

language and literacy but also at enhancing a child's social and emotional development, leading to more well-rounded individuals. The evidence from this study supports the idea that countries should prioritize caregiver training to improve the quality of early childhood education, which will ultimately benefit both the children and the broader society in terms of economic development and social well-being.

5.1.1 Comparing language and literacy development in children taught by trained and untrained caregivers

The t-test analysis revealed that children cared for by trained caregivers demonstrated significantly higher cognitive development skills compared to those cared for by untrained caregivers. Specifically, children with trained caregivers showed better knowledge in naming edible items from their area, as well as animals whose meat is consumed, compared to those under untrained caregivers ($p = 0.033$). The difference in scores was statistically significant, indicating that trained caregivers have a more positive impact on children's cognitive development.

As caregivers play with children through songs, comprehensions, story-telling, the caregivers were able to instill some knowledge in understanding letter including the letters that make up the child's name. Caregivers do not necessarily have lessons on alphabetic letters for instance but through play-based learning, children were able to know and understand the names. This is why in an attempt to ask the child to write their name children taught by untrained caregivers were able to do this without much problems as compared those taught by trained caregivers. These findings relate to the fact that a conducive environment which has all necessary elements in place like play materials, well trained caregivers will enhance children's intellectual capacities from different stimulating ways that come out of play (Muzata, 2021).

On the other hand, children care for by the untrained caregivers were also seen to be doing good at some point especially when it comes to identifying alphabetical letters. However, the observation on this was that there was a lot of rote learning in these children as they only seem to have memorized the letters but were not able to really identify the letters. This was observed when children were asked to identify letters that make up their names. They were not able to identify them by naming the letters but rather only reciting them. When they were told to scribble something about their names these children struggled so much an indication that the caregivers were not able to impart knowledge regarding alphabet letter to these children. It also could be because of the type of training they had. The number of days to a training could also

have some significance in terms of the quality of the training. some trainings due may not help caregivers much, they may only give them basic information due to inadequate number of training days.

5.2 Children's social-emotional development in both CBCCs managed by trained and untrained caregivers.

The study in table 4.4 shows that children in CBCCs managed by trained caregivers generally showed improved social and emotional development in children and performed better in cognitive tasks such as number identification, shape copying, executive function, and receptive spatial vocabulary. However, children cared for by untrained caregivers showed superior outcomes in areas such as literacy interest, expressive language, letter identification, listening comprehension, and writing their names (table 4.4). These results suggest that while trained caregivers contribute positively to cognitive and academic development, untrained caregivers may also foster higher levels of interest in certain areas such as literacy and improve specific language skills. The findings highlight the complex influence of caregiver training on children's development, with trained caregivers excelling in cognitive tasks and untrained caregivers enhancing children's interest and language abilities.

Social and emotional development in children plays a crucial role in how they interact with others and respond to various stimuli that trigger their emotions. As children grow, it is important for parents and caregivers to observe and understand their child's emotional responses and how they relate to both adults and peers. According to Thompson (2019), the early years of childhood are a critical period for the development of emotional regulation and social skills, as children begin to understand their emotions and how to express them appropriately. Caregivers are responsible for guiding children through this developmental stage, helping them learn how to manage their emotions and behave in a way that is socially acceptable.

During the assessment, it was observed that children cared for by trained caregivers performed better in tasks such as naming objects and listening to stories. According to Lee (2020), trained caregivers have a deeper understanding of child development and are better equipped to create environments that promote learning and emotional growth. In contrast, untrained caregivers may not actively engage with the children or provide educational experiences beyond allowing them to play. While play is an essential part of child development, it is also important for

caregivers to intentionally guide children through various activities that enhance their cognitive and emotional development.

It was also noted that untrained caregivers often rely on external resources, such as other people, to tell stories to the children. According to Fisher (2019), caregivers who take a more hands-on approach in storytelling and engaging children with their own experiences help foster better communication and learning skills. Trained caregivers, on the other hand, tend to believe they have sufficient knowledge and may not invite external resources, limiting the children's exposure to diverse perspectives and storytelling styles. This lack of interaction may affect the children's ability to appreciate and engage with stories fully, as they are only hearing them from a limited source.

The assessment revealed that children cared for by untrained caregivers were more playful and often difficult to manage, as the caregivers struggled to set boundaries. According to Jones and Green (2018), effective caregivers understand the importance of setting limits and providing structure in children's activities. These children, who are accustomed to unstructured play, may have difficulty regulating their emotions and behavior. On the other hand, children cared for by trained caregivers demonstrated a better understanding of emotional regulation, as their caregivers were more capable of guiding them through structured activities and providing emotional support when needed. This structure helps children learn how to control their emotions and behave in appropriate ways.

In summary, play is an essential part of children's development, providing opportunities for learning and emotional growth. However, it is important for caregivers to be actively involved in guiding children through their emotions and helping them navigate social interactions. According to a study by Clark and Wallace (2019), children who receive guidance from trained caregivers are better equipped to manage their emotions and develop strong social skills. While play remains important, it is the involvement of a knowledgeable caregiver that helps children make the most of these opportunities for growth.

5.3 The effect of Trained Caregivers on Cognitive Development

The findings revealed that most caregivers believe that placing children in the care of trained caregivers can lead to a future generation of intelligent individuals with better social skills, improved education outcomes, stronger families, better social and economic development, and increased human capital. The analysis showed that 87.5% of caregivers strongly supported this view, selecting all the listed benefits. However, caregivers also highlighted significant barriers

to providing quality early childhood education. These included a lack of parental support, insufficient play materials, uncreative and inexperienced caregivers, poor infrastructure, incompetent parent committees, and limited use of play-based learning approaches. These challenges were mentioned by 98.6% of the respondents, emphasizing the need for improvements in these areas.

Caregivers in the study emphasized the importance of being trained to effectively manage children's needs. According to the caregivers, a trained caregiver is better equipped to understand the unique developmental needs of each child. For instance, in forward digit span, Children under the care of trained caregivers had a mean score of 2.78 (SD = 1.03), while those cared for by untrained caregivers had a mean score of 2.77 (SD = 1.49). The difference between the two groups was statistically significant ($t(1, 118) = 7.33$, $p < 0.03$), indicating that the trained caregivers positively impacted the children's working memory and ability to recall numbers in the same order. This allows the caregiver to provide the right support, which is critical for optimal child development. Trained caregivers are also responsible for informing parents about their child's progress, offering appropriate advice, and ensuring the child's well-being in a nurturing environment (Miller & White, 2020). In contrast, untrained caregivers may lack the skills and knowledge necessary to properly support a child's development. The study also highlighted that caregivers believe children who are cared for by trained professionals are more likely to excel in their later life. They expect these children to perform well in school, overcome challenges with greater ease, and grow into responsible adults with stable economic prospects. The caregivers view early childhood education as laying the foundation for future success, not only in academics but also in social and economic spheres (Johnson & Davis, 2019). The idea is that a strong early education sets children on a path towards becoming productive citizens in society.

Furthermore, caregivers noted that a well-trained caregiver is crucial in creating an enriching learning environment for children. These caregivers are better able to design and implement effective learning activities that cater to the individual needs of the children. This is particularly important as it ensures that children engage in meaningful learning experiences that promote their cognitive, emotional, and social development. Caregivers with proper training understand how to create an environment where children can learn through play, which is a crucial aspect of early childhood education (Lee & Zhang, 2020).

Children aged four and five years are regarded preschoolers as they are about to start primary school life where a lot of things are performed in an orderly manner. And because of this in their preschool classes, children are skilled to do things in an orderly manner. Doing things in an orderly manner involves a lot of cognitive functioning hence a need for the assessment in the cognitive development. This was done to ascertain if the availability of trained caregivers in an ECD centers has any influence in the cognitive development of children withing the said age range. In this study the cognitive development was assessed through different ways. Children were assessed copying shapes, producing a set, number identification, forwards digit span and pencil tapping.

When children were assessed on copying shapes it was found out that most of the children were able to copy given different shapes. However, closer observations revealed that children cared for by trained caregivers were more accurate in copying the shapes unlike their friends who are cared for by untrained caregivers. This showed how impactful a trained caregiver is to children in terms of cognitive development. Most of the children cared for by the untrained caregivers were seen to have tried copying the shapes but most of them were not accurate in their layout as well as their order. Likewise, when they were given a more complex assignment of sorting items in terms of their size, shape, color, the children cared for by trained caregivers were found to be extremely good in sorting items according to color, size and shape without problems unlike the children cared for by untrained caregivers. This was found to be like this because trained caregivers know that they need to provide to children different colored assorted play materials and one of the assignments is to sort these play materials. Unlike their friends, untrained caregivers do not see any importance in providing different play materials for children. In essence there is a lot of play based learning in centers where caregivers are trained than in centers where there were no trained caregivers. Play based learning is more impactful in cognitive development no wonder children cared for by trained caregivers showed more cognitive skills unlike their fellow friends cared for by untrained caregivers (Munsaka 2017).

As children were assessed on a number identification, it was also very funny amongst the two groups of children. Initially at some point during the exercise children were asked to count as much as they could go. It sounded not very difficult for a lot of children from both sides. Children were able to count without problems only very few struggled. But when it came to number identification it sounded relatively difficult. Children did not find it easy as they did with counting numbers. However, the assessment revealed that children cared for by trained

caregivers were able to identify numbers more easily than their friend cared for by untrained caregivers.

Counting numbers was seen as an activity every child can do without problems an indication that children simply memorize the counting without actual understanding of this. When it came to identification of the same numbers that were previously recited it became difficult because that was when one would be seen to have knowledge of what numbers are. For instance, children would count from 1 to 10 and when asked to identify the same numbers on a given paper they were not able to point at 10, 6, 5, 3 etc. This showed that there is an impact that comes from the trained caregivers. The caregivers have skills that they use to help children know the numbers and not just reciting. This can be attributed to the training that the caregivers went through at some point for them to be able to help children know numbers and not just memorize the numbers. Children need to really understand the concept of numbers.

The study points to the significant advantages of placing children in the care of trained caregivers. These caregivers bring valuable skills and knowledge to the table, allowing children to develop optimally in a supportive and well-structured environment. However, the study has also revealed that even untrained caregivers can play some significant role in certain aspects of child development. Children cared for by untrained caregivers out-performed children cared for trained caregiver in a number of components. For instance, in listening comprehension, name writing, expressive language, literacy interest. In all these components untrained caregivers were more impactful. A number of issues can attribute to this. The trained caregivers sometimes feel relaxed and do not work hard in some of these components while untrained caregivers put a lot of their effort using indigenous knowledge as such children do better. At the same time the different number of training days may also have affected the trained caregivers' performance. Where caregiver had more training days, caregivers covered a lot and got adequate skills unlike in circumstances where training days were limited. The teaching experiences of caregivers also cannot be down played in this circumstance. Caregivers that have worked for so many years have vast knowledge more than caregivers that have just worked for a few years regardless of them having received the training. Most of the untrained caregivers have vast experiences in managing children no wonder their children performed much better in some components of assessment. Caregivers have knowledge and skills on how to tell good stories and also and also good skills on how maintain children's attention throughout story telling period unlike their trained counterparts who are not experienced enough. This is observed through how children from untrained caregivers outperformed their

friends when it came to comprehension. Maximize the benefits of early childhood education, caregivers also acknowledge the need for improved resources, better infrastructure, and increased parental involvement. Addressing these challenges will be key to ensuring that all children, regardless of background, have the opportunity to thrive in their early years (Smith & Jones, 2019).

5.4 Chapter summary

Chapter five presented a discussion of the research findings, focusing on the differences in cognitive development, language, literacy, and social-emotional skills between children cared for by trained and untrained caregivers in community-based childcare centers in Dowa District. The chapter examined the impact of caregiver training on children's development, interpreting the results in light of the study's objectives and existing literature. It provided insights into the significance of these findings and their implications for enhancing early childhood care practices. The chapter that follows delves into conclusions and recommendations. This is where the researcher makes suggestions and recommendations as per the analysis of the study findings.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

This chapter presents the conclusions and recommendations based on the findings of the study. This chapter summarizes the key results regarding the impact of caregiver training on children's cognitive and overall development in community-based childcare centers in Dowa District. It also offers practical recommendations aimed at improving early childhood care and education practices, emphasizing the importance of caregiver training in fostering better developmental outcomes for children. The chapter concludes with suggestions for future research and policy considerations to enhance early childhood development programs

6.2 Conclusions

This study examined the effects of caregiver training on the cognitive development of children aged four to five years in community-based childcare centers in Dowa District, Malawi. The findings from this study highlight the significant impact that trained caregivers have on children's cognitive, language, literacy, and social-emotional development. Based on the results, the following conclusions were drawn:

6.2.1 Children's competencies in language and literacy in CBCCs both managed by trained caregivers and untrained caregivers

From the findings, it is clear that children in CBCCs managed by trained caregivers show better language and literacy competencies compared to those cared for by untrained caregivers. The study concluded that children cared for by trained caregivers are more proficient in naming objects, listening to stories, and answering related questions. This was because trained caregivers create an engaging learning environment that promotes language development through activities like storytelling, interactive play, and language games. On the other hand, children in CBCCs with untrained caregivers tend to have less structured interaction with their caregivers, often relying more on play rather than focused learning activities. As a result, their language and literacy skills develop at a slower pace highlighting the importance of having trained caregivers in early childhood education.

6.2.2 Children's social and emotional development in both CBCCs managed by trained and untrained caregivers

The study revealed that children in CBCCs managed by trained caregivers demonstrate more advanced social and emotional development than those in centers with untrained caregivers. It was concluded that children under the care of trained caregivers exhibit better emotional

regulation, more positive interactions with peers, and greater ability to express their feelings appropriately. Trained caregivers are more likely to incorporate strategies that promote emotional development, such as teaching children how to manage anger, resolve conflicts, and empathize with others. These children also showed better social skills, which are crucial for building relationships and functioning effectively in social settings. In contrast, children cared for by untrained caregivers struggled more with emotional regulation and social interactions. The lack of structured emotional support and guidance in these centers likely contributed to these difficulties indicating that untrained caregivers may not be as skilled at managing children's emotional needs or providing the necessary tools to help children navigate their emotions. Thus, emphasizing the critical role that trained caregivers play in fostering healthy social and emotional development in young children.

6.2.3 The effects of trained caregivers on cognitive development of children aged 4-5 years in community-based childcare centers in Dowa district

The study concluded that children cared for by trained caregivers show significant improvements in cognitive development, especially in areas such as problem-solving, memory, and cognitive skills related to school readiness. Trained caregivers are more knowledgeable about developmental milestones and employ strategies that stimulate cognitive growth, such as engaging children in activities that promote critical thinking, memory exercises, and language development. In contrast, children in CBCCs managed by untrained caregivers had slower cognitive development, likely due to a lack of appropriate cognitive stimulation and educational activities. Leading to a conclusion that untrained caregivers do not have the expertise to engage children in activities that challenge their thinking or promote cognitive growth. This difference highlights the importance of having trained caregivers in early childhood settings, as they significantly contribute to the cognitive development of children, laying a strong foundation for future academic success and overall intellectual growth.

Children were assessed against fifteen (15) components in this study. Of the fifteen components, the trained caregivers have shown to be impactful in ten components and unlike the untrained caregivers who were seen to be good in the five components. The study therefore has shown that trained caregivers are way better as compared to untrained caregivers more especially when it comes to cognitive development. Based on the findings in this study it was concluded that caregiver training is essential in the cognitive development of children. However, it does not necessarily mean that untrained caregivers have no impact in the child

cognitive development but when the two are compared then training caregivers gives meaningful intended results.

6.3 Recommendations of the study

Recommendations for Caregivers with Formal Training in Childcare

i. The study has shown that despite caregivers having gone through some training they were still not able to do other things much better. For instance, the study revealed that children cared for by untrained caregivers were able to do well in literacy interest, expressive language, letter identification as well as writing their names. Based on these findings, it is recommended that refresher trainings should be arranged by government and stakeholders to trained caregivers so that they have time to remind each other skills for better child care.

ii. Based on the findings that children cared for by untrained caregivers were able to do well in literacy interest, expressive language, letter identification as well as writing their names, it is also recommended that all caregiver trainings should have equal number of days and not like others having more days than others.

iii. It is further recommended that there has to be deliberate efforts by all stakeholders in ECE where meetings of all caregivers whether trained or untrained can be initiated for the purpose of sharing knowledge and best practices as it has been observed through the study that they both have capacity for positive child development.

iv. The study revealed that some caregivers did not do well despite have trained on the same. Based on this, it is recommended that caregivers should stay updated on the latest early childhood education practices to continuously improve caregiving techniques.

v. The study has shown that there are a number of gaps on the side of the untrained caregivers. Despite them doing well in some areas it is also recommended that more caregivers should be trained by either government or stakeholders for their personal growth, motivation as well as improved service delivery on early childhood education.

vi. Based on the findings that there are a lot of untrained caregivers despite them doing well, untrained caregivers are also encouraged to collaborate with their trained

counterparts so that they can learn some skills and be able to apply them in their respective centers for children's positive cognitive development.

Suggestions for Further Studies

1. Conduct research on the long-term impact of caregiver training on children's development beyond the early childhood stage.
2. Explore the role of community support and involvement in improving the quality of childcare in CBCCs.
3. Examine the influence of play based learning in parenting practices of preschool going children.

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APPENDIX I: QUESTIONNAIRE FOR ECE CAREGIVERS

1. Name of ECD center:
2. Caregiver: Trained (Yes) (NO)
3. How many days of training

   One week ( )

   Two week ( )

   More than two weeks ( )
4. Years of Experience in Early Childhood Education:

   0-2 years [ ]

   3-5 years [ ]

   6-10 years [ ]

   11+ years [ ]
5. Educational Qualification:

   Standard 1-8 [ ]

   Form 1-Form 4 [ ]

   Above form 4 [ ]

Part II: Effects of trained caregivers on early childhood education

4. Effects of early childhood education in general

   Children are:

   Intelligent ( )

   Better social interaction ( )

   Improved social relations ( )

   Better education outcomes ( )

   Later social economic development ( )

   Better families ( )

   Better human capital ( )

5. What other factors apart from caregiver training can help cognitive development of children?
    i. Parental support ( )
    ii. Availability of play materials ( )
    iii. Teacher creativity ( )
    iv. Teacher experience ( )
    v. Structure ( )
    vi. CBCC committee ( )
    vii. Play based approach ( )
6. Barriers to child's cognitive development
    i. Untrained caregivers ( )
    ii. Poor infrastructure ( )
    iii. Unsupportive homes ( )
    iv. Unexplained Policy issues ( )
    v. Poverty ( )
    vi. Caregivers motivation ( )

Thank you for your valuable input. Your responses will greatly contribute to the research on assessing school readiness in early childhood education.

APPENDIX II: CHILD ASSESSMENT

CORE Direct Assessment Enumerator Booklet

Version 03.28.2017

Instructions:

This document will allow you to assess the development and early learning of young children (ages 3-6 years or entry to primary). Read all questions to children exactly as they appear. You will see two forms of font:

- **Bold type in boxes indicates things you, the enumerator, must say to the child out loud. Please read this type aloud to the child completely and exactly as it appears. This is important to ensure that the data will be collected in a standardized manner across all children.**
- *Italic type indicates instructions for you. Do not read these instructions aloud to the child.*

Throughout the assessment, offer neutral encouragement to the child. Say things like, *'You are working very hard - keep it up!'* Do not indicate to the child that they correctly or incorrectly answered the question, except where indicated in practice trials. Give encouragement in between questions, rather than in the middle of questions. Do not give hints to questions or make facial expressions while the child is completing tasks.

Greeting and Verbal Consent
Hello, my name is _____. I work with _____. **We are here to learn about how children, like you, learn things and if they know how to play some games.** **I will ask you some questions about stories and pictures. Some activities will be easy for you and others may be harder. Don't worry if you cannot do some things. We just want you to try your best.** **You can stop and take a break if you need to. Just let me know. If you decide at any point that you'd like to stop, or that you don't want to do one particular game, that's okay too.** **Do you understand?** **Do you have any questions?** **Are you ready to start?**

Check box if verbal consent is obtained ☐ **Child ID:** _____

*(If verbal consent is **not** obtained, thank the child and move on to the next child)*

#1 Literacy Interest					
Materials: Sheet #1 Literacy Interest Faces *STOP RULES: None*					
	Now I'm going to ask you some questions about how you feel about some things. There are no right or wrong answers. *Place Sheet #1 Literacy Interest Faces in front of the child.* **Look at these faces.** *(point to the faces)* **If I say something you like, point to the happy face** *(point to the happy face)***, if you feel ok about it, point to this face** *(point to the middle/neutral face)***, if you don't like it, point to the sad face** *(point to the sad face)***. Do you understand?**	Happy face (2)	Neutral face (1)	Sad face (0)	Child says I don't know/ no response (99)
1a	**How do you feel when you look at pictures in a book?**				
1b	**How do you feel when someone reads a book to you?**				
1c	**How do you feel when you listen to a story either read from a book or told to you?**				
1d	**How do you feel when you tell a story?**				
1e	**How do you feel about drawing pictures?**				

#2 Expressive Language					
Materials: None *STOP RULES: None*					
	I will point to some parts of my body. Tell me the name of this body part, for instance *(pointing to nose)***, this is my nose.** *Point to the following body parts (on enumerator's body) one by one and ask child to name the different body parts.*	Correct answer	Correct (1)	Incorrect (0)	Child says I don't know or no response (99)
2a	**Tell me the name of this body part.** (point to eye)	*Eye/eye lash/eyeball/eyelid*			

2b	**Tell me the name of this body part.** (point to ear)	*Ear*			
2c	**Tell me the name of this body part.** (point to tooth)	*Tooth/teeth. If child says mouth/lips, prompt once*			
2d	**Tell me the name of this body part.** (point to hand)	*Hand or palm. If child says fingers, prompt once.*			
2e	**Tell me the name of this body part.** (point to elbow)	*Elbow. If child says arm, prompt once.*			

#3 Expressive Vocabulary			
Materials: None *Prompting: If the child is stuck at less than 10 items, you can PROMPT ONCE by saying,* **What else can you name that you can eat/that are animals?** *For foods, if the child says a type of food, such as "fruit", prompt by saying,* **"what kinds of fruit? Can you say the names?"** *STOP RULES: None*			
		Highest Number of items stated	Child says I don't know/ no response (99)
3a	**Name as many things that you can eat as you can.**		
	Write in responses (stop at 10):		
3b	**Tell me the names of all the animals that you know.**		
	Write in responses (stop at 10):		

#4 Letter Identification					
Materials: Sheet #3 Letters and a blank sheet of paper to cover a column *Prompting: Self-correcting is allowed. If the child gets stuck for more than 5 seconds, point to the next letter and say:* ***Let's try this one.*** *STOP RULES: Five letters consecutively incorrect*					
	We will play an alphabet letter game now. *Place the Letters Sheet in front of the child. Using another sheet of blank paper, cover the right column.* **Here are some letters. Point to each letter and tell me the name of the letter.** *Have the child point to the first letter in the left column and ask the child:* **What letter is this?** *Child should continue pointing to each letter down the column.*		Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
4a		b			
4b		s			
4c		a			
4d		t			
4e		m			
4f		u			
4g		d			
4h		v			
	When the child finishes the last letter in the left column, cover the left column and have the child point to the first letter in the right column. **What letter is this?** *Child should continue pointing at each letter down the column.*				
4i		a			
4j		q			
4k		e			
4l		r			
4m		n			
4n		l			
4o		o			
4p		k			
	Check if stop rule was used.				

#7 Listening Comprehension Story					
Materials: None *Prompts: Each question may be repeated ONCE if needed.* *STOP RULES: None*					
Now I am going to tell you an interesting story. After I have told you the story I will ask you some questions. Listen carefully, okay? **This story is called The Mouse and the Cat** **Once upon a time there was a fat cat. He always wore a red hat. Once when he was sleeping, a small mouse came silently and stole the hat. The cat woke up to see his hat gone, got very angry, and started chasing the mouse. After a while, the mouse was trapped under a table and could not find any way to escape. So the mouse cried to the cat, "Please don't eat me cat. If you spare my life, I will return your hat." So, after getting back his hat the cat said, "Never touch my hat again" and he went back to sleep in a happy mood.** **Now I am going to ask you some questions about the story.** *Ask each question slowly and clearly.*					
	Instructions	Correct Answer	Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
7a	**Who stole the cat's hat?**	The mouse			
7b	**What was the color of the hat?**	Red			
7c	**Why was the cat chasing the mouse?**	Because the mouse took/stole its hat.			
7d	**Where did the cat trap the mouse?**	Under the table			
7e	**Why did the cat decide not to eat the mouse?**	Because the mouse gave back the hat			

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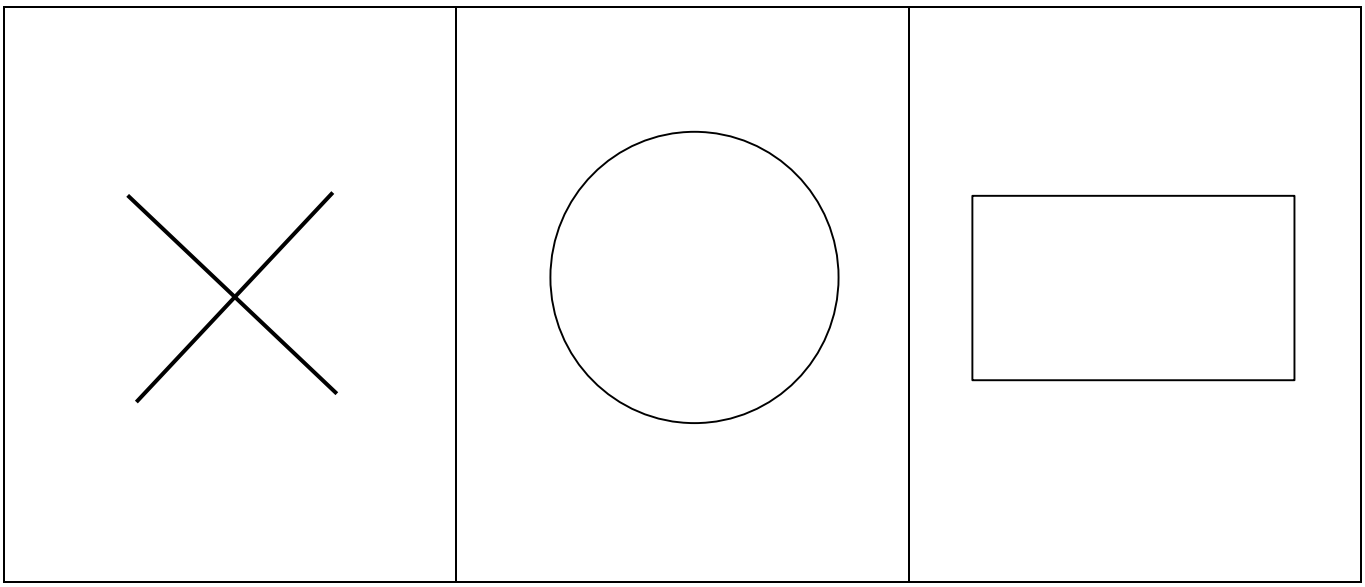
#8 Name Writing						
Materials: One blank piece of paper (next page), pencil or pen. *STOP RULES:* If the child does not write for one minute after your instructions **or** if the child takes longer than 2 minutes to write, stop and say, ***We're going to move on to our next game now.***						
	Instructions		Correct (1)	Incorrect (0)		Child says 'I don't know'/No response (99)
8a	*Place the blank piece of paper and the pencil or pen in front of the child.* Say: **Now we are going to write. Write your name here. Just try your best.**	Child writes name correctly including: -all letters of name (correct orientation) -in correct order				
8b	*If incorrect, describe what the child wrote.*		Scribbles, no discernable symbols (4)	Symbol-like marks (2)	Non-name letters (3)	Has letters in name, but name is not correct – letters are out of order; other mistakes
		Check one box				
	Check if stop rule was used at one minute					
	Check if stop rule was used at two minutes.					

#8 Name Writing

#9 Copying						
Materials: Copying Images, writing utensil that is comfortable and familiar to the child, hard surface for writing (for example, table, book, clipboard). *STOP RULES: None*						
	Instructions	Criteria	All criteria met (2)	Missing one criterion (1)	Missing more than [illegible] (0)	Child says I don't know/ no response
9a	*Place Sheet #4 Copying Images in front of the child with the empty boxes under the row with the shapes. Place the pencil next to the paper.* *Say:* **Now we'll do some drawing. Can you draw a shape just like this** *(point to X)***? You can draw here** *(point to box under the X).*	• *There are two intersecting lines at approximate midpoints* • *The direction is closer to an X than a +* • *The length of all four "legs" are approximately equal*				
		Criteria	All criteria met (2)	Missing one criterion (1)	Missing more than one [illegible] (0)	Child says I don't know/ no response (99)
9b	*Say:* **Can you draw a shape just like this** (point to circle)? **You can draw here** (point to box under the circle).	• *The drawing is a curved/round figure* • *Closed figure* • *No more than 2:1 ratio between height and width*				

		Criteria	All criteria met (2)	Missing one criterion (1)	Missing more than	Child says I don't know/ no response
9c	*Say:* **Can you draw a shape just like this** (point to rectangle)? **You can draw here** (point to box under the rectangle).	• *Four clearly defined sides* • *Corners approximately 90 degrees* • *Parallel sides approximately equal*				

#9 Copying Images



#10 Receptive Spatial Vocabulary					
Materials: Sheet #2 Spatial Vocabulary Sheet *STOP RULES: None*					
	Now I am going to ask you some questions about some pictures. *Place Sheet #2 Spatial Vocabulary Items in front of child.* **Look at all the pictures** *(point to each picture)***, then point to the one picture that shows what I say.**	Correct Answer	Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
10a	**Point to the picture with the ball <u>on</u> the box.**	Child points to picture with ball on the box			
10b	**Point to the picture with the ball <u>under</u> the box.**	Child points to picture with ball under the box			
10c	**Point to the picture with the ball <u>in front of</u> the box.**	Child points to picture with ball in front of the box			
10d	**Point to the picture with the ball <u>in</u> the box.**	Child points to picture with ball in the box			

#11 Verbal Counting					
Materials: None *Prompts: Prompt as necessary:* **What comes after <<last number stated>>?** *Self -correcting allowed.* *STOP RULES: When a child states a number incorrectly or reaches 30.*					
		Correct Answer	Highest Number Counted to	STOP RULE USED?	Child says I don't know/ no response (99)
11	*Say:* **Now we are going to play some counting games. The first game is a counting out loud game. How high can you count? Start at one and count.**	Counts accurately			

#12 Producing A Set					
Materials: 20 uniformly sized small objects that can be used for counting (e.g., stones, bottle caps). Items should <u>not</u> be able to roll. No food items should be used. *Prompt: If the child counts all the objects, or moves some into one pile but it is not clear if the child is 'giving' them to you, you can prompt by saying* ***"Are these for me?"*** *STOP RULES: If child cannot give you 3 items <u>and</u> cannot give you 6 items, move on to next task. If child misses only one of the first two items, proceed with last item.*					
	Instructions	Correct Answer	Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
12a	*Arrange 20 counters randomly in front of the child.* **Now we'll play a game with <name of counter objects> (such as 'rocks', 'bottle caps'). Please put three <name of counter objects> here.**	Hands or pushes over 3 counters			
12b	*Rearrange the 20 counters randomly again in front of the child.* **Now, please put six <name of counter objects> here.**	Hands or pushes over 6 counters			
12c	*Rearrange the 20 counters randomly again in front of the child.* **Now, please put fourteen <name of counter objects> here.**	Hands or pushes over 14 counters			
	Check if stop rule was used				

#13 Number Identification					
Materials: Sheet #4 Number Identification and a blank sheet of paper to cover a column. *Notes: Self-correcting is allowed.* *Prompt: If the child gets stuck for more than 5 seconds, point to the next number and say:* **Let's try this one.** *STOP RULES: If child does not get any in the first column correct, do not go on to the second column.*					
	Place Sheet #4 Numbers Identification in front of the child. Using another blank sheet of paper, cover the right column. **Here are some numbers. Point to a number and tell me the number. It's OK if you don't know all of them.** *Have child point to the first number in the left column and ask the child:* **What number is this?** *Child should continue pointing at each number down the column.*		Correct (1)	Incorrect response (0)	Child says I don't know/ no response (99)
13a		2			
13b		7			
13c		10			
13d		8			
13e		5			
	When the child finishes the last number in the left column, cover the left column and have child point to the first number in the right column. *Say:* **What number is this?** *Child should continue pointing at each number down the column.*				
13f		13			
13g		17			
13h		12			
13i		14			
13j		20			
	Check if stop rule was used.				

#18 Forward Digit Span

Materials: None

Other Notes: If the child makes an error, supply the correct answer on the practice items only.

STOP RULES: None

PRACTICE TRIAL:

In this game, I am going to say a list of numbers. After you hear the numbers, I want you to repeat them after me in the same order.

If I say 7..8, You say 7…8

Now you try a couple. Please listen carefully.

Pause for one second in between each number in the sequence. For example « 4 » [pause] « 2 ».

Say: ***4…2*** *Wait for child to respond. If the child makes an error, supply the correct answer. If the child answers correctly say,* **That's right.**

Say: ***6…1…3*** *Wait for child to respond. If the child makes an error, supply the correct answer. If the child answers correctly say,* **That's right.**

	Okay, now let's do some more. Just listen carefully, and do your best. *Pause for one second in between each number in the sequence*	Correct Answer	Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
18a	***1…6***	1…6			
18b	**5…2…8**	5…2…8			
18c	**8…3…1…4**	8…3…1…4			
18d	**1…2…4…7…3**	1…2…4…7…3			

#20 Pencil Tap

Materials: 1 wooden dowel (6 inches long, ¼ inch in diameter) or an unsharpened pencil
STOP RULES: None

Hold the pencil in one hand and tell child **We are going to play a new game.** *Tap the pencil one time on the table. Hand the pencil to the child and tell him/her,* **Now, you tap one time on the table.** *Continue practicing until the child only taps one time.*
Once the child has successfully tapped one time, take back the pencil and tap two times on the table. Hand the pencil back to the child and tell him/her, **Now, you tap two times on the table.** *Continue practicing until the child only taps two times.*

PRACTICE:

RULE 1: **Great, now we are ready to play the game. When I tap one time** (*tap one time and hand the child the pencil)* **I want you to tap two times.** *Practice until the child is successful on two consecutive trials. Take the pencil back and* say,

RULE 2: **When I tap two times** (*tap the pencil two times on the table and hand it to the child)* **I want you to tap one time.** *Continue practicing until the child is successful on two consecutive trials. Then say,* **Ready to play my game?**

Practice 1: *Tap one time and hand the pencil over to the child to respond. Record the child's response in # 20a.*

- *If the child responds correctly, praise the child and proceed.*
- *If the child responds incorrectly or not at all, follow rules for Extended Practice.*

Practice 2: Tap two times and hand the pencil to the child to respond. Record the child's response in #20b.

- *If the child responds correctly again, praise the child. Go on to Test Item# 20c.*

- *If child responds incorrectly or does not respond at all, follow rules below for Extended Practice.*

ExtendedPractice: If the child responded incorrectly or not at all on either of the above Practice items, remind the child of both rules, beginning with the first rule the child identified incorrectly.
If the child does not get both Practice Items 1 and 2 correct after the third attempt of pretesting, proceed to Test Item 20c, but do NOT remind child of the rules again and continue to administer all Test Items. /

		Enumerator taps	Correct response	Correct (1)	Incorrect response (0)	Child says I don't know/ no response (99)
20a	Practice Item 1 (record response here)/	1	2			
20b	Practice Item 2 (record response here)	2	1			
	"Let's try some more"					
20c	Tap two times and hand the pencil over to the child to respond.	2	1			

20d	Tap one time and hand the pencil over to the child to respond.	1	2			
20e	Tap two times and hand the pencil over to the child to respond.	2	1			
20f	Tap two times and hand the pencil over to the child to respond.	2	1			
		Enumerator taps	Correct response	Correct (1)	Incorrect response (0)	Child says I don't know/ no response (99)
20g	Tap one time and hand the pencil over to the child to respond.	1	2			
20h	Tap one time and hand the pencil over to the child to respond.	1	2			
20i	Tap one time and hand the pencil over to the child to respond.	1	2			
20j	Tap two times and hand the pencil over to the child to respond.	2	1			
20k	Tap one time and hand the pencil over to the child to respond.	1	2			
20l	Tap two times and hand the pencil over to the child to respond.	2	1			
20m	Tap two times and hand the pencil over to the child to respond.	2	1			
20n	Tap one time and hand the pencil over to the child to respond.	1	2			
20o	Tap one time and hand the pencil over to the child to respond.	1	2			
20p	Tap two times and hand the pencil over to the child to respond.	2	1			

At the end of the assessment, say: **That is the end of my questions. Thank you very much for working so hard!**

Comments about this assessment with this child?

APPENDIX III

HSSREC FORM 1b

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES
HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

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PARTICIPANT INFORMATION SHEET

[Informed Consent Form for Parents or Guardians]
This Informed Consent Form (ICF) is meant for parents or guardians that have children participating in this study entitled examining the impact of trained caregivers on cognitive development of children aged 4-5 years in community based childcare centres in Dowa district, Malawi.

Name of Principle Investigator: Jonathan Bonongwe
Name of Organization: Ministry of Gender, Disability, Children and Social welfare
Name of Sponsor: World Bank

This Informed Consent Form has two parts:
- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction
I am Jonathan Bonongwe, I work with the ministry Gender, Disability, Children and Social Welfare. I am also a student at University of Zambia. I am doing a research study on examining the impact of trained caregivers on cognitive development of children between the ages of 4-5 years. I am going to give you some information that should help you decide whether your child should

participate or not. You need to have time think over this before you give response on this.
I you come across a word that you need to understand more as we grow through this together, please do not hesitate to ask about it.

Purpose of the research

The country up to now is still using caregivers that are volunteers. Most of these volunteer caregivers have not been trained but have saved for many years, some have gone beyond ten years. One wonders whether the use of such untrained caregivers has some importance because there has not been any empirical evidence on this. The purpose of this study is to examine the impact of specialised early childhood caregiver training in cognitive development amongst the five-year-old children in CBCCs in Dowa district in Malawi. Specifically, study will compare the level of cognitive development between five years old children cared for by caregivers who have formal training in child care and their untrained counterparts on their level of reading and mathematical skills and social emotional skills.

Type of Research Intervention

This research will need to assess children because they have trained caregivers or not. So, it will be an individual session for each participant. The assessment will be done on individual basis and each child on average will take at least 45minutes

Participant Selection

The selection of children to participate in this exercise in also based on the age range between 4-5 years hence your child is been selected. We feel your child is better placed to undergo this assessment since the child is within the age range of 4-5 years.

Voluntary Participation

The participation of your child in this research is on voluntary basis. It is by your choice for your child to participate in this or not. There is no harm whatsoever if you decide not to participate in this. Your child will still be at the school so feel free to make the decision on this.

Procedures

A. We are inviting you tot take part in the research study whose aim is to find out if trained caregivers have an impact in the cognitive development of children at their center and also to know what is the impact of that on cognitive development. activity. If you accept this, we will ask you to bring your child to center on a given date.
B. On this day, your child will need to come earlier at least he/she should not be late so that we have enough time to interact with him/her before he/she gets tired as you know children easily get tired. During the assessment your child will be asked to do a variety of activities that will help the assessor know their level of cognitive development. The child will be assessed on language and literacy development, social emotional development as well as aspects on high cognitive function. During the period the child will do different activities that will motivate the child and not get bored and tired. For instance, other activities involved will include asking him/her to identify letters, follow simple instructions or imitate what others do or express or detect anger and happiness.

Duration
The research will be for two months in the district. However, we will only need you once. During the day we will need your availability as your child/ward will be assessed for a maximum period of 45 minutes. After which you will be released to go or wait for your child. We may also need you at some point later to provide feedback on the assessment done to your child.

Uses of information

The information that will be collected during the assessment of your child combined with other children will help inform the district on the importance of having trained caregivers or not for the development of the children in the district.

Risks

There will be no risks anticipated in having your child and you in this research.

Benefits
This exercise may also personally help you understand how your child is developing cognitively for further necessary actions. Further to this the collected information may help developers, policy makers and other decision makers in early childhood education for better intervention planning.

Reimbursements

The research will be carried out in your area at the nearest place possible (CBCC). As such we don't expect you to spend anything for you to make it to the place. However, we appreciate your time as a resource to the CBCC where your child will be assessed. In this activity we will not be able to provide with anything in monetary form.

Confidentiality

As this research will be carried in the community people might be interested to hear about what transpired during the time, we are interacting. It is not within our mandate to tell people of whatever has happened here. The information involved in this is about the child as such we will make sure that this is under control that it is not shared to the public. The information that will be collected from this research project will be kept private. Any information about the child will have a number on it instead of the name. Only the researchers will know what the child's number is and will secure that information so much so that it will not be accessed. The information will not be shared with or given to anyone except Dr. Kaani who is the supervisor of this study.

Sharing the Results

No information provided in this study will be shared to anyone else outside the research team and no information in this study will be attributed to you or the child personally. However, the knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. We will come back to provide feedback regarding how this study has been and the findings. This will be done through meetings that will be conducted at appropriate times. Following the meetings, we will publish the results so that other interested people may learn from the research.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the assessment at any time that you wish without your job being affected. I will give you an opportunity at the end of the assessment to review your remarks, if you do not agree with the assessment outcomes

Who to Contact

If you have questions, you can ask me now or any time of your choice. However, if you decide to question later you then can contact the following:

Mr. Justin Hamela
Ministry of Gender, Community Development and Social welfare
P/Bag 330,
Lilongwe 3.
Tel.+265999956866.
Email. hamelatrevor@gmail.com

This proposal or protocol has been reviewed and approved by HSSREC which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact:

Dr. J. J. L. Ziwa Chairperson, Humanities and Social Sciences, Research Ethics Committee,
University of Zambia
P O Box 32379
LUSAKA

OR

Dr. Wilma Nchito - Director, Directorate of Research and Graduate Studies
University of Zambia
P O Box 32379
LUSAKA

"Approval to conduct this research has been provided by the University of Zambia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, if you are/ or any person is not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the HSSREC on the address sated above.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project."

Part II: Certificate of Informed Consent

I have been invited to participate in the research that is taking place in the district and specifically at the CBCC where my child/ward goes for learning. This research is about trying to examine the extent to which trained caregivers' impact in children's cognitive development. This will help know if having caregivers that are trained is impactful on the development of the child. The child will be assessed in my presence.

(This section is mandatory)
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant_____
Signature of Participant _____
Date _____
Day/month/year

If illiterate [1]

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ **Thumb print of participant**

Signature of witness _____

Date _____
Day/month/year

If vulnerable or incapacitated like pregnant women, children, people with mental illness, people with disabilities, prisoners and minority groups form instance, the investigator must ensure that there is a well-educated and motivated surrogate or proxy decision maker. When comprehension is an issue the research plan should include means of testing the participants' understanding of the important information prior to enrollment.

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given

[1] A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

freely and voluntarily.

A copy of this ICF has been provided to the participant.

Jonathan Bonongwe

Date __17th February 2024
Day/month/year

CONTACTS FOR QUESTIONS (Names, addresses and phone numbers of the following):

1. **Principal Investigator (Must be a local person and a Zambian).**

   Names: Jonathan Bonongwe

   Phone: +265 999316241

   E mail: bonongwej@gmail.com

   Physical address: Mponela-Dowa

APPENDIC IV

HSSREC FORM 1b

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES
HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

Telephone: +260-211-290258/293937 P O Box 32379,
Fax: +260-211-290258/293937 Lusaka,
Zambia
E-mail drgs@unza.zm

PARTICIPANT INFORMATION SHEET

[Informed Consent Form for caregivers]
This Informed Consent Form (ICF) is meant for caregivers that have children participating in this study entitled examining the impact of trained caregivers on cognitive development of children aged 4-5 years in community based childcare centres in Dowa district, Malawi.

Name of Principle Investigator: Jonathan Bonongwe
Name of Organization: Ministry of Gender, Disability, Children and Social welfare
Name of Sponsor: World Bank

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you choose to participate)

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction
I am Jonathan Bonongwe, I work with the ministry Gender, Disability, Children and Social Welfare. I am also a student at University of Zambia. I am doing a research study on examining the impact

of trained caregivers on cognitive development of children between the ages of 4-5 years. I am going to give you some information that should help you decide whether you should participate or not. You need to have time think over this before you give response on this.
I you come across a word that you need to understand more as we grow through this together, please do not hesitate to ask about it.

Purpose of the research
The country up to now is still using caregivers that are volunteers. Most of these volunteer caregivers have not been trained but have saved for many years, some have gone beyond ten years. One wonders whether the use of such untrained caregivers has some importance because there has not been any empirical evidence on this. The purpose of this study is to examine the impact of specialised early childhood caregiver training in cognitive development amongst the five-year-old children in CBCCs in Dowa district in Malawi. Specifically, study will compare the level of cognitive development between five years old children cared for by caregivers who have formal training in child care and their untrained counterparts on their level of reading and mathematical skills and social emotional skills.

Type of Research Intervention
This research will need to assess children who are taken care of by trained and untrained caregivers. So, it will be an individual session for each participant. The assessment will be done on individual basis and each caregiver will have a simple questionnaire to respond to some simple questions.

Participant Selection
The selection of caregivers to participate in this exercise is also based on whether they are trained and they have practiced for some time. We feel you are better placed to undergo this data collection exercise since you are trained as a caregiver and have practiced.

Voluntary Participation
The participation of you in this research is on voluntary basis. It is by your choice for you to participate in this or not. There is no harm whatsoever if you decide not to participate in this. Your will still be at the school so and enjoy all the benefits from the school. You will not be at a disadvantage for not participating to make the decision on this.

Procedures
C. We are inviting you to take part in the research study whose aim is to find out if trained caregivers have an impact in the cognitive development of children at their center and also to know what is the impact of that on cognitive development. activity. If you accept this, we will ask you to come to the center on a given date.
D. On this day, you will need to come earlier at least so that we have enough time to interact. You do not need to bring anything else as you will only be given a questionnaire to respond to. As you respond to this questionnaire you will be responding to simple questions that only tries to get answers from you on how you think about some issues regarding your work and its impact on children, family and country as a whole. For instance, you may be required to answer questions like how important is ECD in general.

Duration
The research will be for two months in the district. However, we will only need you once. During the day we will need your availability as you we will you to respond to the questionnaire. After which you will be released to go and do other things. We may also need you at some point later to provide feedback on the assessment done.

Uses of information

The information that will be collected during the exercise will be combined with that which will be collected from assessing children cognitive development and will help inform the district on the importance of having trained caregivers or not for the development of the children in the district.

Risks

There will be no risks anticipated in having you in this research.

Benefits
This exercise may also personally help you understand the requirements of your work and how you can improve on it. Further to this the collected information may help developers, policy makers and other decision makers in early childhood education for better intervention planning.

Reimbursements

The research will be carried out in your area at the nearest place possible (CBCC). As such we don't expect you to spend anything for you to make it to the place. However, we appreciate your time as a resource to the CBCC where your child will be assessed. In this activity we will not be able to provide with anything in monetary form.

Confidentiality

As this research will be carried in the community people might be interested to hear about what transpired during the time, we are interacting. It is not within our mandate to tell people of whatever has happened here. The information involved in this is about you as such we will make sure that this is under control that it is not shared to the public. The information that will be collected from this research project will be kept private. Any information about you will have a number on it instead of the name. Only the researchers will know what your number is and will secure that information so much so that it will not be accessed. The information will not be shared with or given to anyone except Dr. Kaani who is the supervisor of this study.

Sharing the Results

No information provided in this study will be shared to anyone else outside the research team and no information in this study will be attributed to you personally. However, the knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. We will come back to provide feedback regarding how this study has been and the findings. This will be done through meetings that will be conducted at appropriate times. Following the meetings, we will publish the results so that other interested people may learn from

the research.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the interview at any time that you wish without your job being affected. I will give you an opportunity at the end of the assessment to review your remarks, if you do not agree with the assessment outcomes

Who to Contact
If you have questions, you can ask me now or any time of your choice. However, if you decide to question later you then can contact the following:

Mr. Justin Hamela
Ministry of Gender, Community Development and Social welfare
P/Bag 330,
Lilongwe 3.
Tel.+265999956866.
Email. hamelatrevor@gmail.com

This proposal or protocol has been reviewed and approved by HSSREC which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact:

Dr. J. J. L. Ziwa Chairperson, Humanities and Social Sciences, Research Ethics Committee,
University of Zambia
P O Box 32379
LUSAKA

OR
Dr. Wilma Nchito - Director, Directorate of Research and Graduate Studies
University of Zambia
P O Box 32379
LUSAKA

"Approval to conduct this research has been provided by the University of Zambia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, if you are/ or any person is not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the HSSREC on the address sated above.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project."

Part II: Certificate of Informed Consent

I have been invited to participate in the research that is taking place in the district and specifically at the CBCC where I work. This research is about trying to examine the extent to which trained caregivers' impact in children's cognitive development. This will help know if having caregivers that are trained is impactful on the development of the child. The child will be assessed in my presence.

(This section is mandatory)
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant_____
Signature of Participant _____
Date _____
Day/month/year

If illiterate [2]

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ **Thumb print of participant**

Signature of witness _____

Date _____
Day/month/year

If vulnerable or incapacitated like pregnant women, children, people with mental illness, people with disabilities, prisoners and minority groups form instance, the investigator must ensure that there is a well-educated and motivated surrogate or proxy decision maker. When comprehension is an issue the research plan should include means of testing the participants' understanding of the important information prior to enrollment.

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands.

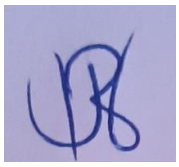
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I

[2] A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Jonathan Bonongwe



Date _____
Day/month/year

CONTACTS FOR QUESTIONS (Names, addresses and phone numbers of the following):

2. Principal Investigator (Must be a local person and a Zambian).

Names: Jonathan Bonongwe

Phone: +265 999316241

E mail: bonongwej@gmail.com

Physical address: Mponela-Dowa

APPENDIX V: CLEARANCE LETTERS

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES
HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

Telephone: +260-211-290258/293937
Fax: +260-211-290258/293937

P O Box 32379,
Lusaka, Zambia.

E-mail drgs@unza.zm

CLEARANCE TO CONDUCT RESEARCH

Examining the Impact of Trained Caregivers on Cognitive Development of children aged 4-5 Years in Community Based Childcare Centers in Dowa District, Malawi

Malawi for so many years has used volunteer caregivers in the delivery of early childhood services to children from three to eight years of age. Statistically only 49 percent of the total number of caregivers have had a formal training leaving out a lot of children being attended to by untrained caregivers. To minimise this problem the government and stakeholders developed a 21days training program to be followed to train caregivers so that they qualify as caregivers and use necessary skills to help children develop cognitively. However, no empirical evidence has been shared to indicate that the trained caregivers are indeed impacting on children's cognitive development. It is for this reason therefore that a study is planned to assess the difference in cognitive skills level of development between children whose caregivers were trained and those whose caregivers were not trained.

Aims and objectives

The study aims at examining the impact of specialised early childhood caregiver training in cognitive development amongst the 4-5-year-old children in CBCCs in Dowa district in Malawi. Specifically, it will compare the level of cognitive development between 4-5 years old children cared for by caregivers who have formal training in child care and their untrained counterparts on their level of reading and mathematical skills and social emotional skills. The objective for this

DISTRICT COMMISSIONER
12 FEB 2024
DOWA DISTRICT COUNCIL
PRIVATE BAG 2, DOWA

the HSSREC on the address sated above.

All research participants are entitled to retain a copy of any Participant Information Form and/or Participant Consent Form relating to this research project."

CONTACTS FOR QUESTIONS

1. **Principal Investigator (Must be a local person and a Zambian).**

   Names: Jonathan Bononge

   Phone: +265 999316241

   E mail: bononge@gmail.com

   Physical address: Mponela-Dowa

SEEKING APPROVAL

I therefore write to seek your approval for the collection of data for this study.

.....

APPROVED.

DISTRICT COMMISSIONER
12 FEB 2024
DOWA DISTRICT COUNCIL
PRIVATE BAG 2, DOWA