

**EXPLORING THE INFLUENCE OF THE HOME ENVIRONMENT ON PLAY BASED
LEARNING IN EARLY CHILDHOOD EDUCATION IN MAZABUKA DISTRICT,
ZAMBIA**

BY

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*Dissertation Submitted to the University of Zambia in Fulfilment of the Requirements for the
Award of the Degree of Masters in Early Childhood Education.*

University of Zambia

Lusaka

2025

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DECLARATION

I, Natasha R Nyangwete do hereby declare that this thesis presents my own work and that it has not been previously submitted for the award of a degree or any other qualification to the University of Zambia or any other University. All references have been adequately acknowledged.

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APPROVAL

The University of Zambia approves this dissertation of Natasha R Nyangwete as fulfilling part of the requirements for the award of the degree of Masters in Early Childhood Education.

Signature

Date

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DEDICATION

I dedicate this work to my late Father Nyangwete Mike, my Mother Nakamba Beata, my beloved son Nyangwete Jonathan, my siblings (Teza, Deborah, Baleke, Daniel, Ruth, and Joshua), to my support system: Alinani, Inonge, Favour, Racheal, Clara and the rest of my family at large. I would also like to take this opportunity to dedicate this work to my covering, Rev. Oswald Mamba this journey needed all the encouragement and I can attest that it was delivered in full from the above and more. Thank you once more, I'm deeply indebted to you all for your selfless patience, support and tireless endurance during my pursuit of this course. I extend my gratitude to my able sponsors IDRC through the SSRI project for this privilege to pursue in the field of my passion and interest, thank you for the sacrifices, they do not go unnoticed. Last but not the least, I dedicate this document to God almighty for giving this blessing.

ACKNOWLEDGEMENT

First and foremost, I thank the Almighty God for his amazing grace, mercy and love that he has continued to show in my life. I would like to express my heartfelt gratitude to my supervisors Dr. N Sichula, Dr. B Kalinde and Dr. Mambwe for their tireless constructive guidance and encouragements rendered to me throughout the course of this work.

Many thanks also go to my spiritual fathers Rev Oswald Mumba, Apostle Fredrick Kaluluma and my mother for their tireless prayers and faith in me as well as their spiritual guidance, prayers and encouragements. Kaleya West staff, Head Mistress Mrs. Kazoka and pupils for helping me enjoy the teaching experience. For my lecturers (Mr. Mapenzi, late Mr. Chikwete, Mr. Muleya and Mr. Nyrienda) from Musi-O-Tunya College of Education for setting the ball rolling, my superior and lecturer Dr. A Mando Banda from Zambian Open University and my lecturers from The University of Zambia: Dr. B Kaani, Professor B Matafwali, Dr. Muzata, Professor Munsaka and the late Mr. K Kalima and my colleagues for the constant support and encouragement. Lastly, I would like to acknowledge myself for believing in myself.

I am also deeply indebted to the Ministry of Education for grating me this opportunity to further my studies, my team from Early Childhood Education department (Mr. Kaluba, Ms. Kandeke, Dr. Nyoni and Mrs. Simfukwe) to mention a few I appreciate you all for your support.

May I also thank my lovely son for motivating me throughout this journey, alongside every single person who took time to keep me pushing and chasing this dream it really does take a village.

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ACRONYMS

CLEP	Childhood Learning and Education Project
ECE	Early Childhood Education
ECO	Early Childhood Outcomes
HE	Home Environment
PBL	Play-Based Learning Education
PLE	Play-Learning Environment

ABSTRACT

The influence of the home environment on play-based learning in early childhood education is significant, particularly in shaping children's readiness and engagement within formal learning settings. This study explored how elements of the home environment impacted PBL in selected Early Childhood Education centres within Mazabuka District, Zambia. The study utilized a qualitative case study approach, engaging a purposive sample of size 25 participants which included 5 teachers and 20 family members from various households. Data was collected through interviews and focus group discussions and analysed using thematic analysis. Findings revealed that families provided varying levels of support for play-based learning at home, with elements such as adaptable play spaces, accessible educational resources, and active parental involvement playing crucial roles in children's learning and development. Parents generally viewed PBL as beneficial, though they faced obstacles, including safety concerns, screen time distractions, and limited resources. The study also identified a significant relationship between how play was conducted at home and children's engagement in structured PBL activities at ECE centres, where factors like family adaptability, community support, and interest in training enhanced alignment with school-based learning. Overall, the study concluded that an enriched home environment and positive family attitudes towards play-based learning significantly enhance children's learning in Early Childhood Education. The study recommended developing parent-focused engagement programs, community-based training, and support for affordable play resources to foster a more conducive environment for PBL at home.

Keywords: Early childhood education, Home environment, Parental involvement, Play-based learning

CHAPTER ONE: INTRODUCTION

1.0 Chapter overview

This chapter outlines the key components for understanding the research. It includes the background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, scope of the study, operational definitions, and ethical considerations. Each section is designed to provide context, define the research focus, and explain the reason behind the study's methodology and approach.

1.1 Background of the Study

Early Childhood Education (ECE) serves as the foundational stage for formal education, targeting children from birth up to about seven years old. According to Phiri and Banda (2021) in 2011, ECE became part of the National Policy supported by legislation through the Education Act of 2011. Coverage of ECE in Zambia by 2014 was 15% of children in grade 1 with preschool or nursery school experience, mostly limited to urban areas (Chileshe and Mwape 2021). The field of Early Childhood Education has increasingly recognized the pivotal role of play in supporting the holistic development of young children (Mwansa and Tembo 2023). This educational approach, emphasizing learning through play, has been credited with enhancing cognitive, social, and emotional growth in Early Childhood.

Play-Based Learning (PBL) is a pedagogical approach that emphasizes the role of play in early childhood education, fostering holistic development in children (Kaluba et al., 2024). In Zambia, the Ministry of Education has endorsed PBL as the primary teaching method for young learners, recognizing the importance of the home environment in supporting play. The integration of PBL into national education policies and curricula is critical for its widespread adoption.

Over the years, Zambia has developed a comprehensive framework to guide early childhood education, with a strong emphasis on play-based learning (Kalinde et al. 2024). The Learning through 'Play' in Early Education: Teacher's Manual (2021) serves as the most recent policy document explicitly endorsing play as a fundamental learning approach in early education. This manual provides educators with strategies for integrating play into teaching and learning processes. Similarly, the Continuous Professional Development Manual for ECE Teachers (2020) reinforces

the role of play-based pedagogy by equipping teachers with the necessary skills to implement play-based methodologies effectively.

Furthermore, as highlighted by Kalinde et al. (2024), various education policy documents in Zambia consistently emphasize the crucial role of ‘play’ in early childhood pedagogy, recognizing its value in fostering the holistic development of young children. These policies serve as foundational frameworks that guide the implementation of play-based learning, underscoring its importance in promoting cognitive, emotional, and social growth in early childhood education.

The Continuous Professional Development Manual for ECE Teachers (2020) stresses the need for educators to incorporate play into daily teaching practices, highlighting how play can be used as an instructional tool to enhance learning. This policy connects to the home environment by offering insight into how teachers are trained to implement play-based learning in early childhood education. Children can benefit from play experiences both in the classroom and at home, and the manual provides a basis for understanding how these two environments school and home interact in the development of children’s learning.

The Education Sector Skills Plan (2017-2021) further supports the development of play-based learning by advocating for the alignment of early childhood education strategies with national development goals. The policy stresses that play is essential in early childhood development, and this aligns with the idea that the home environment plays an integral role in preparing children for successful learning experiences. By focusing on skills such as creativity, problem-solving, and social interaction, the plan encourages a holistic approach to early childhood development that can be nurtured both at school and within the family context. The Teacher’s Curriculum Implementation Guide (2013) provides practical guidance on how play-based methods should be implemented in classrooms. This policy not only supports the development of play within formal education settings but also highlights the interconnectedness between school and home learning environments. The effectiveness of play-based learning is enhanced when parents understand and adopt similar approaches to play at home.

The Early Childhood Teachers Diploma Syllabus (2015) and the Zambia Curriculum Framework (2013) provide more specific guidelines on how play should be integrated into early childhood education. Both documents emphasize play as a central aspect of learning, ensuring that educators are prepared to facilitate activities that engage children in meaningful, developmentally

appropriate ways. Together, these policy documents highlight a national commitment to fostering play as a tool for learning in early childhood education. The focus on play in these documents sets a framework for understanding the role of the home environment in enhancing or supporting play-based learning.

According to Mwansa and Tembo (2023), teachers' implementation of play-based pedagogy has a significant and positive relationship with all domains of children's holistic development. Learner assessment for school readiness and transitioning from pre-primary to primary through play-based pedagogies encompasses academic, social, and personal learning during periods of play (Sitali, 2021). However, the successful implementation of PBL hinges on the perceptions and involvement of various stakeholders, including the home environment.

The influence of a child's home setting on their learning and development has been a topic of interest in various studies. According to Ndlovu (2021) the home environment serves as the first educational setting for a child, playing a foundational role in shaping early learning experiences. It is within this context that children first interact with the world around them, acquiring basic skills and attitudes that set the trajectory for their future educational journey. The nature of these initial interactions have a lasting impact on a child's ability to engage with and benefit from educational opportunities, including Play-Based Learning.

As observed by Mwale and Chirwa (2022) the home environment encompasses a multitude of factors, including but not limited to parental attitudes towards education, the availability of play materials, the socioeconomic status of the family, and cultural norms and practices. These factors can potentially influence a child's engagement with and benefit from PBL activities. Munsaka and Kalinde, (2017) noted that a home rich in resources and supportive of educational endeavours may provide a more conducive environment for the flourishing of skills and knowledge acquired through play. Conversely, homes facing economic or social challenges may inadvertently limit the potential benefits of such educational approaches (Mulenga and Phiri) Recognizing the significance of the home environment in PBL underscores the need for a holistic approach that bridges home and educational settings.

1.2 Statement of the Problem

In recent years, scholars have increasingly highlighted the pivotal role of play-based learning (PBL) in Early Childhood Education (ECE), emphasizing its profound impact on children's

cognitive, social, and emotional development (Munsaka and Kalinde, 2017). However, while extensive research exists on the benefits of PBL, there is limited exploration of how the home environment influences its effectiveness, particularly in contexts characterized by diverse cultural and socioeconomic conditions. Despite these policy endorsements on PBL, little empirical research has been conducted to examine the actual role of home-based factors such as parental involvement, socio-economic conditions, availability of play resources, and cultural perceptions of play in shaping children's engagement in PBL. Existing studies have explored the impact of play-based pedagogies in formal educational settings (Mwansa and Tembo, 2023; Sitali, 2021), with a focus on teachers' implementation of PBL and its influence on school readiness. However, the interplay between home environments and the success of PBL in Zambia remains underexplored. Without a clear understanding of these factors, families may struggle to effectively support play-based educational strategies at home, potentially limiting children's developmental outcomes.

1.3. Purpose of the study

The purpose of this study was to explore the influence of the home environment on Play Based Learning in early childhood education.

1.4 Objectives of the study

The study was guided by the following objectives:

- i. To determine the elements of PBL in the home environment.
- ii. To establish family perceptions towards PBL in the home environment in Mazabuka District.
- iii. To establish the influence of home environment on play based learning in ECE centres in Mazabuka District.

1.5 Research Questions

The research addressed the following questions:

- i. What elements of PBL can be found in the home environment?

- ii. What are the perceptions of family towards PBL in the home environment in Mazabuka district?
- iii. What are the influences of the home environment on play based learning in ECE centres in Mazabuka District?

1.6 Theoretical Framework

A theoretical framework is a crucial component of research that provides a structured foundation for a study (Epstein, 2015). It involves defining and organizing key concepts, variables, and relationships within a research context. At the core of this research was the application of Bronfenbrenner's theory, which includes the microsystem, mesosystem, exosystem, macrosystem, and chronosystem, to the context of Early Childhood Education in Mazabuka District. According to Bronfenbrenner (1979) this theory provides a comprehensive view of the various layers of environmental influences on child development, which is crucial for investigating the diverse factors within the home environment and their influences on Play-Based Learning.

The research begun by examining the microsystem, focusing on the immediate home environment. It explored elements such as family member's involvement, the physical space available for play, and the provision of learning resources, assessing how these aspects directly influence Play-Based Learning. Following this, the research extended to the mesosystem by investigating the interactions between the home and other environments, particularly educational centres. This exploration was crucial in understanding how these interconnected environments collectively impact PBL in the Mazabuka district.

Additionally, the study considered the exosystem, encompassing external factors that indirectly affect children. This aspect of the research included an assessment of broader factors such as parental work conditions and community resources, and how they contribute to shaping the home environment and, in turn, PBL. Through this comprehensive approach, the research aimed to unravel factors that contribute to the effectiveness of Play-Based Learning in Early Childhood Education, particularly in the unique context of Mazabuka District, Zambia. By applying Bronfenbrenner 's Ecological Systems Theory, the purpose of the study was to identify the direct influences of the home environment on Early Childhood Education.

1.7 Significance of the study

This study can significantly contribute to the understanding of how the home environment shapes Play-Based Learning in Early Childhood Education. By illustrating home life that support or impede PBL, it offers valuable insights for parents, educators, and policymakers to foster environments conducive to effective learning. The findings of this study offered practical guidance for parents and educators, helping them to create nurturing and stimulating home learning environments. This guidance is critical for maximizing the benefits of Play-Based Learning during the crucial years of Early Childhood Development. The research has added to the academic literature on Early Childhood Education, particularly in the context of developing countries like Zambia. It may fill existing gaps in understanding the relationship between the home environment and education, thus broadening the scope of knowledge in this field.

1.8 Limitations of the study

One of the key limitations of this study was its focus on a single district, Mazabuka, which may affect the generalizability of the findings to other regions. The study relied on qualitative data, which, while rich in depth, may not provide statistically generalizable results. Additionally, the study depended on self-reported data from parents, teachers, and guardians, which could introduce biases such as recall bias or social desirability bias. Time constraints also limited the extent to which further observations and follow-up interviews could be conducted.

1.9 Delimitations of the study

The study was deliberately confined to interactions between the home environment and Early Childhood Education (ECE) centres, with a specific focus on Play-Based Learning. Other methodologies and pedagogies within ECE were not examined. The research included only children attending ECE centres in Mazabuka District, along with their guardians and teachers, to provide a focused perspective on the relationship between play-based learning and the home environment. Furthermore, the study targeted participants from diverse socio-economic backgrounds within Mazabuka to ensure a more comprehensive understanding of varying home environments.

1.10 Operational Definitions

Early childhood education: ECE refers to the period of education from birth to eight (0-8) years old.

Family members Involvement: This variable refers to the actions and behaviours of parents or guardians alongside all family members that reflect their engagement with the child's educational activities.

Home Environment: This term refers to the physical and psychosocial aspects of a child's primary living space.

Learning: Learning are the skills, knowledge, attitudes, and values children are to acquire.

Play Based Learning (PBL): For this study, PBL were operationally defined by observable behaviours that demonstrate learning through play, such as problem-solving, creativity, and social interaction, measured using a standard observational checklist.

1.10 Chapter Summary

This chapter presented the background to the study regarding ECE, PBL and the home environment. The chapter further presented the statement of the problem together with the research purpose, objectives and questions, significance of the study, operational definition of terms. The theoretical framework formed the plan of this study. The next chapter provides a review of literature on the study for the purpose of positioning the study in the context of knowledge and identifying gaps in knowledge; hence justifying the need for the study.

CHAPTER TWO: LITERATURE REVIEW

2.0 Chapter overview

Chapter two reviews existing literature on the influence of the home environment on play-based learning in Early Childhood Education. It explores the core elements of PBL within the home environment, highlighting the types of activities, resources, and interactions that foster learning through play. The chapter also delves into Family perceptions toward PBL, analyzing how these views shape the support and opportunities provided for play at home. Additionally, it investigates the influence of home environment on play based learning in ECE centres, focusing on how these two contexts complement or diverge from one another. While global and regional studies provide valuable insights, the review identifies a critical gap in understanding these dynamics within Mazabuka District, Zambia, emphasizing the need for context-specific research to enhance PBL in early childhood education.

2.1 Concept of Play-Based Learning

Play-based learning is a pedagogical approach that utilises play as the primary medium through which young children explore, understand, and make sense of the world around them. Rooted in developmental psychology, this approach recognises that children learn best when they are actively engaged, motivated by curiosity, and involved in experiences that are meaningful and enjoyable (Walsh et al., 2022). It is not merely free play, but a carefully planned and purposeful activity that blends child-initiated play with adult guidance to promote learning and development (OECD, 2021).

The theoretical underpinnings of play-based learning are significantly influenced by constructivist theorists such as Jean Piaget and Lev Vygotsky. Piaget (1951) posited that children learn through active interaction with their environment, constructing knowledge through stages of cognitive development. According to Piaget, play is essential in helping children assimilate new information into existing mental schemas, particularly during the preoperational stage when symbolic and pretend play becomes prevalent.

In contrast, Vygotsky (1978) emphasized the social context of learning and introduced the concept of the Zone of Proximal Development (ZPD), where children learn best through guided interaction with more knowledgeable others. In play, particularly imaginative or role play, children often

operate just beyond their current abilities, supported by adults or peers, which promotes cognitive and linguistic development (Edwards, 2017).

Play-based learning has numerous benefits across developmental domains. Cognitively, it fosters problem-solving, critical thinking, and creativity as children experiment with ideas, make decisions, and solve challenges (Pyle et al., 2018). Emotionally, play allows children to express feelings, cope with stress, and build emotional resilience (Whitebread et al., 2021). Socially, it enhances cooperation, communication, and conflict-resolution skills, especially in group play contexts where negotiation and empathy are required (Liu et al., 2020).

Moreover, research has shown that play-based approaches contribute positively to academic learning. For example, early literacy and numeracy skills can be embedded within meaningful play scenarios, enabling children to acquire foundational skills in contextually relevant ways (Fisher et al., 2019). Importantly, play allows children to take ownership of their learning, boosting motivation and engagement.

2.2 Types of Play and Their Importance

Play is not a uniform activity but encompasses various forms that each contribute uniquely to a child's development. Among the most significant types of play is symbolic play, also referred to as pretend or imaginative play. This form allows children to assign meaning to objects, actions, or roles that go beyond their literal use, such as pretending a stick is a sword or enacting scenarios like playing "house" or "shop." Symbolic play nurtures abstract thinking and creativity while also supporting the development of language and social understanding. It enables children to express ideas, emotions, and narratives, laying the foundation for literacy and storytelling skills. According to Nicolopoulou (2019), symbolic play fosters socio-cognitive skills as children take on various roles and perspectives, learning to empathise and negotiate through shared imaginative experiences.

Constructive play involves hands-on activities where children manipulate materials to build or create something, such as stacking blocks, assembling puzzles, or using art supplies. This type of play enhances fine motor skills, hand-eye coordination, and spatial awareness. More importantly, it develops problem-solving abilities as children make decisions, plan, and adapt their strategies to achieve their goals. Pyle et al. (2020) note that constructive play encourages goal-directed

behaviour, which is essential for cognitive development and early STEM (Science, Technology, Engineering, and Mathematics) learning. Through trial and error, children gain persistence and resilience, which are vital qualities for lifelong learning.

Physical play, which includes running, jumping, climbing, and dancing, plays a crucial role in the development of gross motor skills, balance, and physical health. It allows children to test their physical limits, take manageable risks, and develop confidence in their bodily abilities. Physical play also contributes to brain development through increased oxygen flow and neurological stimulation, supporting attention and memory. Timmons et al. (2021) emphasise that such active play not only improves fitness but also cultivates perseverance and emotional regulation, particularly when children engage in structured physical activities or outdoor play with peers.

Social play, on the other hand, involves interaction with others in cooperative and often rule-based activities. It teaches children essential social skills such as turn-taking, sharing, empathy, and conflict resolution. During social play, children learn to understand group dynamics, respect boundaries, and develop friendships, which are critical for emotional and interpersonal development. Whether through board games, dramatic role-plays, or team sports, social play enhances communication and helps children navigate social relationships within a safe and supportive environment.

Each of these forms of play contributes to a holistic approach to child development, addressing different yet interconnected domains cognitive, emotional, social, and physical. By recognising and integrating various types of play, early childhood educators and caregivers can create rich, inclusive learning environments that respond to children's diverse needs and interests. It is essential for education systems, particularly in early childhood education, to embrace and support all types of play as powerful tools for learning and development. In conclusion, play-based learning should not be viewed as supplementary but as a central and necessary approach to nurturing capable, confident, and curious learners who are equipped with the foundational skills needed for lifelong learning.

The concept of play-based learning is integral to early childhood education, grounded in well-established theories and supported by contemporary research. It encourages the development of cognitive, emotional, and social competencies and should be considered a core component in nurturing well-rounded, capable learners.

2.3 Cultural Context

Culture and community values play a pivotal role in shaping the nature and quality of play-based learning experiences among children in Mazabuka District. In the Zambian context, particularly in semi-urban and rural communities like Mazabuka, children's play is deeply intertwined with traditional norms, beliefs, and social practices. Many children engage in indigenous games such as *chiyato* (a game played with stones), *mubomba* (a traditional version of hide and seek), *masewe* (jump rope), and *chimatu* (hopscotch), which are not only forms of entertainment but also serve as rich educational tools. These games promote physical coordination, social bonding, and moral values such as fairness, patience, and teamwork. As highlighted by Musonda and Mwelwa (2022), traditional games often carry embedded lessons that reflect communal values and wisdom passed down through generations. Similarly, Muwana (2020) underscores that such games form an integral part of early learning, transmitting ethical values and cultural heritage in child-friendly ways.

Furthermore, the transmission of traditional knowledge within the home environment contributes significantly to children's early learning. Elders and caregivers often use oral storytelling, songs, riddles, and proverbs to teach children about societal expectations, moral lessons, and problem-solving skills. These culturally embedded practices nurture listening comprehension, memory, critical thinking, and an appreciation of one's cultural identity (Nsamenang, 2017; Serpell and Marfo, 2021). In many homes in Mazabuka, children are encouraged to participate in daily household tasks and agricultural activities. These activities not only foster responsibility and practical life skills but also serve as informal learning opportunities rooted in observation, imitation, and apprenticeship a principle aligned with Vygotsky's (1978) theory of social learning and the Zone of Proximal Development.

Moreover, community values, such as respect for elders, cooperation, and humility, are often reinforced during play. Through shared games and communal activities, children learn to adhere to social norms and develop emotional regulation. The collective nature of Zambian culture means that child-rearing is often a shared responsibility, with older siblings, extended family members, and neighbours playing active roles in children's socialisation and play (Chansa-Kabali and Mulenga-Hagane, 2020). This community-based learning enriches the play environment and introduces children to multiple perspectives and interpersonal dynamics. As noted by Abdi (2021),

integrating local cultural practices into early education not only makes learning more relevant but also enhances identity development and resilience. Therefore, recognising the cultural foundations of play-based learning is essential for designing contextually responsive early childhood education programmes in Mazabuka and similar settings.

2.4 Elements within the home environment that contribute to play-based learning

The home environment plays a critical role in shaping play-based learning in early childhood education. Multiple factors contribute to this dynamic, including parental involvement, the availability of learning resources, socio-economic conditions, and cultural perceptions of play. These elements collectively influence the quality and impact of play-based learning on a child's cognitive, emotional, and social development.

Johansson and Eriksson (2018) highlight the significance of parental engagement in interactive play activities like storytelling, role-playing, and collaborative games. Their study demonstrates that children whose parents actively engage in these activities exhibit improved cognitive skills, enhanced emotional regulation, and better social interaction. The study underscores the importance of parental involvement in fostering a supportive and stimulating home environment for early learning. White (2012) further elaborates on the value of storytelling as a tool for language development and emotional understanding, emphasizing how such activities cultivate critical early skills that form the foundation for future academic success.

Berk and Winsler (2019) shed light on the role of resource-rich home environments in promoting effective play-based learning. Their findings suggest that access to materials like books, puzzles, building blocks, and art supplies encourages creativity and cognitive growth. These resources provide children with opportunities to explore, experiment, and problem-solve, creating meaningful learning experiences that bridge the gap between play and structured education. Similarly, Pellegrini and Holmes (2019) argue that parental guidance in structured play activities reinforces concepts taught in ECE centres. This seamless integration of home and school learning environments enhances the effectiveness of play-based approaches, providing children with consistent opportunities to apply their skills in different settings.

Kalinde and Vermeulen (2016) also emphasize the importance of parental involvement in early childhood education. However, they identify barriers that limit parental participation, such as lack

of awareness about the role of play in learning, limited time due to work obligations, and inadequate access to resources. Their research calls for practical interventions, such as workshops and community programs, to empower parents with strategies and tools to support their children's learning at home. Addressing these challenges is essential to maximizing the potential of PBL in diverse socio-economic contexts.

In addition to parental involvement and access to resources, socio-economic conditions within the home environment play a pivotal role in determining the quality of play-based learning experiences. Ginsburg (2021) highlights how families in resource-constrained settings face significant challenges in providing diverse learning materials for their children. However, even in such contexts, simple and imaginative play activities can foster development when parents or caregivers actively engage with children. This suggests that while socio-economic status influences the availability of resources, the quality of parental interaction can still profoundly impact a child's learning. Socio-economic factors play a pivotal role in shaping the quality and effectiveness of home environments for PBL, as disparities in access to resources and opportunities significantly impact early childhood education. Otieno and Mutua (2021) highlights the intricate relationship between socio-economic status (SES), resource availability, and parental involvement in fostering meaningful play-based learning experiences.

Niemi and Saarinen (2019) explored how SES influences the quality of home environments for play-based learning, uncovering a strong positive correlation between higher SES and improved learning. Families with higher SES often provide resource-rich environments, including books, art supplies, puzzles, and digital tools like tablets and interactive applications. These resources enhance creativity, critical thinking, and problem-solving skills, offering children opportunities to engage in diverse and enriching learning experiences. Parents in higher SES families also tend to facilitate structured play activities such as guided storytelling, STEM-based games, and collaborative projects, further reinforcing concepts introduced in ECE centres.

Berk and Winsler (2019) also emphasize the critical role of access to diverse learning materials in enhancing play-based learning. They argue that resource availability enables children to engage in exploratory and imaginative play, fostering cognitive and social growth. However, they note that resource constraints, often associated with lower SES, limit opportunities for meaningful play. In

these settings, children may lack access to the materials necessary for developing skills through creative exploration.

Despite these challenges, Ginsburg (2021) suggests that even in resource-constrained environments, low-cost and creative approaches can effectively support play-based learning. Storytelling, role-playing, and other imaginative activities require minimal materials but significantly contribute to children's cognitive and social development when parents or caregivers actively engage. These findings highlight the importance of parental involvement in mitigating the effects of resource limitations, particularly in low-income households.

Kalinde and Vermeulen (2016) underscore the need to address socio-economic barriers to play-based learning by providing low-income families with affordable educational resources and practical guidance on engaging their children in play. Their research emphasizes that empowering families with the tools and knowledge to support play-based activities can help mitigate disparities caused by economic constraints. These efforts are particularly crucial in low-income settings, where access to materials is often limited.

In South Africa, Moyo and Dube (2020) examined the role of family dynamics in enhancing play-based learning among children, highlighting the value of traditional games and culturally embedded practices. Their study revealed that activities such as storytelling and group play not only promote cognitive and social development but also encourage teamwork, problem-solving, and cultural identity. These traditional activities provide a foundation for learning, even in resource-limited environments. However, the study also noted significant disparities in access to play materials, which limited the potential benefits of PBL for children in low-income households. While family involvement was crucial, the lack of resources posed significant challenges, underscoring the need for interventions to support equitable access to play-based learning.

Richter et al. (2019) reinforced the findings of Moyo and Dube by emphasizing the essential role of family involvement in early childhood education. Their study highlighted how active family engagement positively influences children's resilience and creativity, supporting developmental growth through meaningful interactions. Similarly, Dawes et al. (2021) expanded on the cultural dimension of play, asserting that traditional games are not only instrumental in fostering learning but also in strengthening children's sense of identity. These insights align with Moyo and Dube's observations about the significance of culturally rooted practices in enhancing PBL.

However, a critical counterpoint is raised by Ebrahim and Irvine (2020), who argue that while family engagement is undoubtedly important, it cannot fully compensate for structural barriers in early childhood education. They highlight systemic issues such as underfunded schools, insufficient access to quality learning materials, and inadequate teacher training as significant obstacles that hinder the effectiveness of family involvement. This critique suggests that Moyo and Dube's emphasis on family dynamics might not address the broader systemic inequalities that often define the early education landscape. Addressing these structural challenges, alongside promoting family involvement, is necessary to maximize the impact of PBL.

In Nigeria, Akinpelu and Adeyemi (2021) explored the creative strategies employed by low-income families to support play-based learning despite resource limitations. Their study revealed that many families ingeniously utilized locally available materials, such as bottle caps, sticks, and stones, to facilitate developmental play activities. This innovative use of simple, low-cost resources enabled children to engage in meaningful play despite financial constraints. However, the researchers also noted that the lack of standardized educational tools and materials limited the overall quality of play-based learning. They emphasized that while these adaptations demonstrated resourcefulness, they could not fully replace the developmental benefits offered by access to well-designed, purpose-built learning resources.

Ojo and Adebayo (2019) supported these findings, emphasizing the resilience of Nigerian families in utilizing available materials to ensure their children had access to play-based learning opportunities. However, Okonjo et al. (2020) raised concerns about the limitations of improvisation, suggesting that while resourcefulness is valuable, it may not be a sustainable long-term solution. They called for more structural interventions, such as subsidizing educational resources, to address the underlying issue of limited access to quality learning materials. Additionally, Aluko and Oyediran (2022) underscored the importance of community partnerships in bridging the resource gap, pointing to the need for systemic solutions beyond individual family efforts. These perspectives suggest that while Akinpelu and Adeyemi highlighted family-level strategies for overcoming resource constraints, a more robust policy framework is necessary to create lasting solutions to the challenges faced by Nigerian families in supporting PBL.

In Zambia, Phiri and Mulenga (2020) conducted a study on how household income and parental involvement affected PBL. Their findings showed that children from wealthier families had access

to a variety of educational resources, such as books and toys, which enhanced their learning experiences. In contrast, children from lower-income households often relied on traditional games, which, although effective, were not as diverse or resource-intensive as the materials available to wealthier families. The study also emphasized that parental involvement played a critical role in making the most of available resources, with active engagement from parents significantly enhancing the impact of PBL, regardless of the family's income level.

Banda and Chanda (2018) echoed and emphasized the economic disparities in Lusaka and their influence on children's play experiences. They agreed that traditional games helped mitigate the lack of commercial resources and provided a valuable learning experience. However, Simukonda and Musonda (2019) critiqued the focus on income, suggesting that Phiri and Mulenga may have overestimated the influence of economic status. They argued that community-based initiatives, such as shared play centres, could address some of the challenges posed by low-income households, providing a more inclusive approach to PBL. Similarly, Chileshe and Mwape (2021) pointed out that parental attitudes and awareness might have an even greater impact on PBL than income alone. This suggests that while Phiri and Mulenga emphasized the role of household income, other factors like community support and caregiver involvement could play an equally significant role in shaping children's PBL experiences.

The studies from South Africa, Nigeria, and Zambia all emphasize the critical role of family involvement in enhancing play-based learning for children. However, they also reveal the limitations of relying solely on family-level interventions to address the challenges posed by resource constraints. Across all these contexts, scholars have highlighted the need for broader systemic interventions, such as government policies and community initiatives, to complement and support family efforts. These systemic strategies would not only ensure equitable access to resources but also foster a more inclusive environment for play-based learning, thereby maximizing its developmental benefits.

2.5 Family perceptions towards play-based learning

Family perceptions towards play-based learning significantly influence its implementation and effectiveness in early childhood education. These perceptions shape the extent to which parents and caregivers prioritize and support play as a learning tool. Studies from Europe, Africa, and Zambia provide valuable insights into how family beliefs and attitudes impact PBL.

In Norway, Hansen and Olsen (2020) found that most parents viewed play as essential for fostering creativity, problem-solving, and social skills. This aligns with the findings of scholars like Ginsburg (2021), who argue that play nurtures critical thinking and emotional resilience. The Norwegian study also highlighted the importance of outdoor play and access to open-ended resources, which echoes the work of researchers like Lillard (2021) and Pyle and Bigelow (2015), who emphasize the role of physical play and creative play materials in supporting children's cognitive and social development.

However, Hansen and Olsen (2020) also identified a minority of parents who prioritized structured academic activities over play. This reflects a growing concern in some countries about balancing academic rigor with play in early childhood, a theme discussed by scholars like Pyle and Danniels (2017), who argue that formal education often takes precedence in societies focused on academic achievement. While most Norwegian parents embraced PBL, Hansen and Olsen (2020) noted the influence of global trends, such as the growing emphasis on academic performance, which influenced some parents to shift toward a more structured approach.

This trend can also be observed in Italy, where Ricci and Bianchi (2019) found a similar dichotomy between parents from higher and lower socio-economic backgrounds. Families with more resources were more likely to support PBL, seeing it as a tool for creativity, problem-solving, and social skills, like the findings in Norway. However, families from lower socio-economic backgrounds often saw academic success as the key to upward mobility and economic stability and therefore prioritized formal education over play. This echoes findings by Lareau (2011), who discusses how socio-economic status influences parental strategies for child development, with middle- and upper-class families tending to focus on holistic, play-based education, while working-class families often emphasize academic preparation.

The socio-economic divide noted in Italy mirrors global disparities in access to quality early childhood education. Research by Baker et al. (2014) has shown that lower-income families often face constraints in providing enriching play environments that upper-income families can afford, limiting their children's exposure to the benefits of PBL. As Ricci and Bianchi (2019) suggest, there is a need for targeted interventions to address this gap, including community programs and workshops that educate families about the long-term benefits of play-based learning. This is consistent with the recommendations of scholars like Morrow et al. (2017), who argue that policy

interventions are necessary to support low-income families in providing balanced, play-based learning opportunities for their children.

The cultural norms identified by Ricci and Bianchi (2019) further complicate the picture, as traditional values in Italy emphasized discipline, achievement, and family legacy. Similar findings were discussed by Katz (2008), who notes that cultural expectations can shape parental beliefs about the role of education and play. In Italy, these cultural values led some families to emphasize structured learning activities over play, particularly in regions with fewer resources to support PBL. These cultural influences are also echoed in studies by McNaughton et al. (2018), who argue that cultural attitudes can play a significant role in shaping the perceived value of play in different societies.

Otieno and Mutua (2021) explored how parents in rural Kenya perceive the role of play in early childhood education, emphasizing that many viewed play merely as a leisure activity, disconnected from education. This view was influenced by cultural norms that prioritize structured, task-oriented activities over unstructured, creative play. These findings align with those of Njoroge (2018), who similarly observed that rural Kenyan parents often prioritize academic success and neglect the developmental benefits of play. Otieno and Mutua (2021) highlighted that parental attitude shifted when they participated in training programs that emphasized the importance of play for cognitive and social development. This shift was supported by a study by Kimani and Karanja (2019), who also found that parental involvement in educational workshops led to a greater appreciation of the value of play-based learning. These interventions helped parents understand that play contributes to problem-solving, creativity, and social interactions, reinforcing the conclusions drawn by.

In Ghana, Agyemang and Boateng (2020) found that traditional cultural values placed less emphasis on play, with household chores and formal education taking precedence over play-based learning. They observed that many Ghanaian parents, especially in rural areas, regarded play as frivolous and not conducive to children's development. This mirrors the findings of Osei-Bonsu and Asare (2019), who noted that cultural beliefs in Ghana often positioned play as a waste of time, overshadowed by tasks perceived as more beneficial to children's future success. Despite these traditional views, Agyemang and Boateng (2020) also noted that exposure to modern educational practices, particularly through school outreach programs, helped shift parental

perceptions. This aligns with the work of Akyeampong et al. (2021), who found that educational interventions, including community-based workshops, were effective in changing attitudes towards play-based learning in Ghana. Parents who attended these programs recognized play as integral to child development, particularly in areas like language acquisition, social skills, and cognitive development.

While both Otieno and Mutua (2021) and Agyemang and Boateng (2020) highlighted the importance of cultural beliefs in shaping parental attitudes toward play, they also recognized the potential for change through educational outreach. Similarly, in Zambia, Phiri and Mulenga (2020) found that household income played a significant role in access to educational resources for children. They argued that wealthier families had access to a variety of materials, while lower-income households often relied on traditional games, which lacked the same variety. This perspective was echoed by Banda and Chanda (2018), who pointed out the economic disparities that influenced children's play experiences in Lusaka. However, Simukonda and Musonda (2019) critiqued the overemphasis on economic status, suggesting that community-based initiatives, such as shared play centres, could mitigate the impact of low-income households. This argument aligns with Agyemang and Boateng's (2020) suggestion that integrating modern educational practices into local communities can provide a more inclusive approach to play-based learning, regardless of economic status.

In Kafue District, Mwale and Chirwa (2022) explored the perceptions of parents regarding PBL and its impact on children's development. Their study revealed that many parents initially viewed play as a recreational activity, not recognizing its educational value. However, after engaging with educators, parents' understanding shifted, and they began to see PBL as a vital component of holistic child development, enhancing skills such as problem-solving, social interaction, and language development. The study emphasized that when parents received clear guidance and information on how to integrate educational play into daily routines, they were more likely to foster a supportive home environment. The findings echoed those of Banda and Chanda (2018), who found that community-based initiatives and interactions between educators and parents can significantly enhance the acceptance and implementation of PBL, especially in resource-limited areas.

Mulenga and Phiri (2021) conducted a similar study in Choma District, focusing on parent-teacher collaboration in shaping parental perceptions of PBL. Their research highlighted those strong connections between parents and schools, particularly through workshops and school activities, played a crucial role in changing attitudes towards PBL. Parents who actively participated in these programs were more likely to recognize the educational benefits of play, including its role in fostering cognitive, social, and emotional skills. This was consistent with the findings of Simukonda and Musonda (2019), who suggested that educators have a significant role in shaping parents' views on the importance of play in early childhood education. Moreover, Mulenga and Phiri (2021) noted the impact of socio-economic and cultural factors, with lower-income families initially resistant to embracing PBL. This concern was also addressed by Chileshe and Mwape (2021), who found that targeted interventions and culturally sensitive programs were effective in encouraging these families to support PBL.

Both studies emphasize the importance of ongoing communication and collaboration between parents and educators. In Kafue, Mwale and Chirwa (2022) demonstrated that when parents were informed about the cognitive and developmental benefits of PBL, their perceptions shifted positively, leading them to integrate play-based activities into their children's daily lives. Similarly, Mulenga and Phiri (2021) found that when schools actively engaged parents, particularly in communities where socio-economic challenges were prominent, there was a marked improvement in parental attitudes toward PBL. This supports the argument made by Chileshe and Mwape (2021), who suggested that continuous education and engagement are key to overcoming misconceptions about the educational value of play.

Studies across Europe, Africa, and Zambia highlight the critical role of Family perceptions in shaping the success of play-based learning. While European families generally value PBL, socio-economic and cultural factors create variations in attitudes. In Africa and Zambia, cultural norms and limited awareness often result in misconceptions about PBL, but targeted education and collaboration with educators can shift these perceptions positively. These findings underscore the importance of community engagement and awareness campaigns to promote PBL in diverse settings.

2.6 Influence of home environment on play based learning in ECE

The interplay between playing at home and at ECE centres significantly impacts the learning of young children. Consistency and alignment in play-based activities across these environments enhance cognitive, social, and emotional development. Studies from Europe, Africa, and Zambia provide insights into how these two contexts influence each other and their combined effect on early childhood education.

Mbatha (2021) explored the role of parental involvement in reinforcing play-based learning (PBL) at home in Germany, emphasizing how alignment between home and early childhood education (ECE) settings enhances children's cognitive, emotional, and social development. This finding mirrors the results of Dupont and Lemoine (2020) in France, who similarly found that when home play activities complement those in ECE centres, children show greater cognitive engagement, emotional regulation, and social skills. Both studies underscore the importance of consistent play themes across environments, with activities such as storytelling, puzzles, and role-playing games being central to reinforcing learning. These studies suggest that children benefit from the continuity of play between home and school, as it allows for better retention and application of skills learned in either environment.

Mbatha's (2021) findings on the transferability of skills across home and school environments were particularly insightful. When parents reinforced play-based activities introduced in ECE centres, children exhibited improved problem-solving skills and emotional intelligence. This aligns with the work of Siraj-Blatchford et al. (2020), who found that when parents support and extend learning at home, children are more likely to achieve higher levels of academic success. Siraj-Blatchford et al. (2020) argued that parental involvement in learning activities contributes not only to cognitive development but also to fostering children's emotional and social well-being, a theme also present in Mbatha's study.

However, while both Mbatha (2021) and Dupont and Lemoine (2020) emphasize the positive impact of parental involvement, they also highlight challenges related to socio-economic factors. Mbatha (2021) noted that families from higher socio-economic backgrounds were more likely to have the resources and time to engage in play-based learning at home, a point also observed by Dupont and Lemoine (2020), who highlighted the resource disparities in French households. These findings are consistent with those of Lareau (2019), who studied parenting styles in the United

States and found that socio-economic status significantly impacts how involved parents are in their children's education. Lareau (2019) identified that middle-class parents, who have more financial and educational resources, are more likely to engage in activities that support learning, while working-class and lower-income parents often lack the time, knowledge, or resources to do so.

Moreover, both studies point to the importance of interventions aimed at increasing parental involvement, particularly for families from lower socio-economic backgrounds. Mbatha (2021) suggested workshops and training sessions for parents to equip them with the skills to support play-based learning at home, a recommendation echoed by Dupont and Lemoine (2020), who also emphasized the role of parent-teacher collaboration. This need for supportive interventions is reinforced by the work of Pugh and Duffy (2013), who found that when parents are provided with practical tools and guidance, they are more likely to incorporate educational activities into their daily routines. Pugh and Duffy (2013) argued that such interventions not only empower parents but also help bridge the gap in education caused by socio-economic disparities.

Mbatha (2021) and Dupont and Lemoine (2020) both highlight the significant role of parental involvement in reinforcing play-based learning, showing that children benefit from consistent play themes across home and school settings. However, these studies also highlight socio-economic disparities in parental engagement and the need for interventions that can support all families in participating in their children's learning. This view is supported by other scholars such as Siraj-Blatchford et al. (2020), and Pugh and Duffy (2013), who emphasize the importance of equipping parents with the knowledge and resources to effectively support their children's education, regardless of socio-economic status. These findings underscore the need for policies and practices that ensure equal access to resources and opportunities for all families, facilitating a more equitable approach to early childhood education.

In South Africa, Ndlovu and Mthembu (2021) conducted a comprehensive study on home-based play and its impact on early childhood education programs, focusing specifically on rural areas. Their research highlighted the challenges that arose when aligning home-based play with institutional programs in these communities. The authors emphasized that home-based play in rural South Africa was often unstructured and viewed as secondary to more immediate household responsibilities or caregiving tasks. This was compounded by the lack of access to age-appropriate toys and educational materials, with parents relying on everyday objects for play activities. As a

result, the home play environment often lacked the structured educational approach seen in early childhood education centres, potentially limiting children's ability to transition smoothly between home and school learning contexts. Ndlovu and Mthembu's findings align with Berk (2019) assertion that teacher-parent collaboration can significantly enhance children's development. Moreover, according to Edwards et al. (2018) Vygotsky's theory of social development reinforces the idea that adult mediation, whether at home or in school, plays a crucial role in children's learning.

Fantuzzo et al. (2019) work emphasizes the importance of play in child development, particularly the role of social and cognitive play. He argues that play serves as a medium for children to develop problem-solving skills, social understanding, and emotional regulation. In the context of both the South African and Nigerian studies, Berk's findings align with the observed benefits of incorporating home-based play into formal education. For instance, the incorporation of role-playing games, storytelling, and culturally relevant activities into early childhood education settings helps nurture children's cognitive skills and their ability to think critically. This finding is reflected in both Ndlovu and Mthembu's (2021) and Ajayi and Okonkwo's (2020) studies, where the educators used culturally relevant storytelling and games to bridge the gap between home and school play.

Perry et al. (2010), theory also supports the findings in these studies that teacher-parent collaboration is essential for fostering children's development. When educators and parents work together to create a consistent play-based learning environment, children experience continuity in their cognitive and social development. This underscores the importance of the strategies observed in the studies, such as organizing workshops, home visits, and community meetings.

Vygotsky's social development theory stresses the critical role of social interaction in learning. He posits that children learn through the mediation of adults or peers within their zone of proximal development (ZPD) (Fantuzzo et al. 2019). The research by Ndlovu and Mthembu (2021) and Ajayi and Okonkwo (2020) is deeply influenced by this theory. In both studies, the concept of ZPD is visible in how teachers work with parents to enhance children's play experiences. For example, Ndlovu and Mthembu (2021) found that when teachers collaborated with parents to introduce new games and activities, children demonstrated cognitive growth. This aligns with Vygotsky's assertion that guided interaction between more knowledgeable individuals and

children within their ZPD can lead to enhanced learning. Similarly, Ajayi and Okonkwo's (2020) integration of traditional play activities into school curricula provides the necessary scaffolding for children to develop new skills while drawing upon their existing cultural knowledge.

Vygotsky also emphasizes that language is a key mediator of cognitive development. In the case of Ndlovu and Mthembu (2021), the storytelling activities that parents incorporated into home play helped children improve their language skills, which is consistent with Vygotsky's emphasis on the importance of language in cognitive development.

In Nigeria, Ajayi and Okonkwo (2020) conducted a study that explored the integration of home-based play with school-based play, focusing on how traditional cultural practices shaped the nature of play at home. Like the South African context, home-based play in Nigeria was often unstructured and rooted in cultural traditions. In many Nigerian households, children engaged in games that reflected local customs, such as storytelling, role-playing village life, and rhythmic clapping or singing games. While these activities were rich in cultural content, they were generally seen as leisure rather than as educational tools. In contrast, structured play activities at early childhood education centres focused on early literacy, numeracy, and problem-solving skills, often using modern toys and teaching aids unfamiliar to many children from traditional households.

This collaborative approach enriched the classroom curriculum and empowered parents to view play as a vital component of their children's education. Ajayi and Okonkwo's (2020) findings resonate with Phillips (2020) advocacy for teacher-parent collaboration in supporting children's development, as well as with emphasizing the value of integrating cultural play traditions into formal education.

Kim and Kim (2017) advocates for the significance of play in early childhood education, especially in relation to cognitive development and emotional regulation. She emphasizes that play-based learning, when done correctly, can significantly improve children's problem-solving skills, creativity, and social skills. Both Ndlovu and Mthembu (2021) and Ajayi and Okonkwo (2020) emphasize the importance of integrating play into early education to foster cognitive and emotional growth. In Ndlovu and Mthembu's study, for instance, children's participation in culturally relevant storytelling and role-playing activities showed improvements in language development and socialization. This mirrors Kim and Kim findings on the crucial role of play in promoting these skills.

Kim and Kim (2017) work also stress that a balance of structured and unstructured play is essential for children's development. This idea resonates with the findings in both studies, where educators in South Africa and Nigeria sought to balance the more unstructured, traditional forms of home-based play with the structured learning environments of schools. By creating a bridge between home and school play, children were able to develop in a holistic manner.

Phiri and Banda (2021) found that children whose home environments promoted exploratory and imaginative play were better prepared for the structured activities within early childhood education (ECE) programs. Their findings align with earlier research by Pellegrini and Smith (2018), who found that children exposed to more active and creative play at home showed better readiness for school. Bundy et al. (2019) further supports this, highlighting the critical role of adult mediation in facilitating learning in both home and school environments. The alignment between home-based and school-based activities noted by Phiri and Banda (2021) resonates with Weisner (2022) view that effective teacher-parent collaboration enhances children's development, especially in terms of cognitive and social skills.

Moreover, Phiri and Banda (2021) found that communication between parents and teachers was vital in ensuring a seamless transition for children from home to school. This observation aligns with the work of Epstein (2020), who emphasized the importance of home-school partnerships in fostering children's educational success. Studies by Hornby and Lafaele (2011) also support the idea that effective communication between parents and teachers enhances children's learning, confirming the findings of Phiri and Banda that such collaborations play a crucial role in fostering continuity in learning.

Additionally, Phiri and Banda (2021) noted the impact of socio-economic factors on the quality of home play environments, echoing research by Engle et al. (2011), who found that families with fewer resources often have to innovate in creating stimulating learning environments. Despite challenges, the resourcefulness of parents in low-income settings, as documented by Phiri and Banda (2021), resonates with findings by Noble et al. (2021), who demonstrated that children in low-income homes could achieve successful development if provided with supportive and engaging learning activities, even with limited resources.

Mwansa and Chanda (2020) found that strong parent-teacher collaboration not only improved social interactions among children but also boosted their confidence, enabling them to form

meaningful relationships and adapt better in social settings. This finding is consistent with Sheridan et al. (2019), who noted that children whose parents actively participate in their learning activities, particularly through play-based approaches, exhibit higher levels of social competence, including better communication and teamwork skills. Similarly, Mwansa and Chanda's (2020) observation of the influence of parental attitudes toward play-based learning aligns with Pyle and Biggs (2014), who reported that when parents perceive play as an integral component of the learning process, their children often experience greater academic and social success. This highlights the critical role of parental perceptions in shaping children's development.

Furthermore, Mwansa and Chanda (2020) emphasized the impact of socio-economic factors on parental involvement and the quality of home play environments. Families with higher socio-economic status were found to provide more structured, resource-rich environments that supported educational play. This aligns with the findings of Siraj-Blatchford and Manni (2021), who concluded that access to educational resources enables families to create enriching play experiences, fostering both cognitive and social development in children. However, Mwansa and Chanda (2020) also observed that parents from lower socio-economic backgrounds demonstrated remarkable creativity in transforming everyday objects into tools for educational play. This observation resonates with Ginsburg (2021), who highlighted that even in resource-limited settings, quality learning can occur when parents are knowledgeable, engaged, and intentional in their efforts to support their children's play-based learning. These findings collectively underscore the importance of both socio-economic resources and parental engagement in creating optimal play-based learning environments.

2.7 Research Gaps

While existing literature provides valuable insights into the influence of the home environment on play-based learning, several gaps remain, particularly in the Zambian context. In examining Family perceptions towards PBL, the literature reveals significant variation in how families from different socio-economic and cultural backgrounds value play in early education. However, there is a lack of in-depth analysis of how these perceptions are shaped by local beliefs, economic pressures, and exposure to educational policies in Mazabuka. While awareness campaigns have been successful in altering parental attitudes in other African contexts, there is little evidence on

their long-term impact in semi-urban Zambian communities. This study seeks to explore these nuanced attitudes and how they influence the integration of PBL into early childhood education.

The influence of home environment on play based learning in ECE centres has been widely discussed, particularly in Europe and some African countries. However, research has not sufficiently examined how this relationship is influenced by communication and collaboration between parents and educators in semi-urban Zambian settings. This study aims to address these gaps by investigating the extent of coordination between home and ECE environments in Mazabuka and how it affects children's learning. By addressing these gaps, this study will contribute to a more comprehensive understanding of how the home environment in Mazabuka influences play-based learning and provide insights that can inform educational strategies and policy development.

2.8 Chapter Summary

This chapter reviewed literature on the influence of the home environment on play-based learning (PBL), focusing on three key themes: elements within the home environment that contribute to PBL, Family perceptions towards PBL, and the influence of home environment on play based learning in ECE centres. Studies from Europe, Africa, and Zambia provided diverse perspectives, highlighting the importance of resources, cultural factors, parental involvement, and the alignment of home and school play activities in shaping learning. While existing research offers valuable insights, significant gaps remain, particularly regarding the cultural and contextual nuances of semi-urban settings like Mazabuka. These gaps underscore the need for further exploration of local attitudes, resources, and the interplay between home and ECE environments, which this study seeks to address to enhance PBL in early childhood education.

CHAPTER THREE

METHODOLOGY

3.0 Chapter Overview

This chapter presents the methodology used in the study, outlining methodological elements which include the research paradigm, research design, research population, sample size and sampling techniques, data collection procedure, data collection instruments, data analysis procedure, and ethical considerations. The chapter ends with a summary.

3.1 Research Paradigm

This study employed the Constructivist epistemology paradigm, which focuses on the subjective construction of reality based on individual experiences and interactions (Denzin and Lincoln, 2017). The constructivist approach aligns with the purpose of this study which was to explore the influence of the home environment (HE) on Play Based Learning in Early Childhood Education. Through this lens, the study sought to understand how parents and other family members construct their perceptions toward PBL, and how these perceptions influence children's play experiences both at home and in ECE centres. The research questions specifically examine the relationship between home play and ECE experiences, making the constructivist paradigm an appropriate lens to understand the varied, context-dependent influences on children's development and learning. Furthermore, the constructivist paradigm aligns with the purpose of the study by emphasizing the importance of individual experiences and interactions in shaping children's learning. In the context of Mazabuka District, the study aimed to uncover how different family dynamics such as educational backgrounds, cultural practices, and socio-economic constraints affect how families approach PBL.

3.2 Research Approach

This study employed a qualitative research approach, selected to align with the research aims and objectives, and to explore the depth and complexity of the participants' perceptions and beliefs. A qualitative research approach is a method of inquiry that seeks to understand phenomena by exploring the meanings, experiences, and perceptions of participants (Marshall and Rossman 2016). The decision to use a qualitative approach was driven by the need to gain a comprehensive understanding of how home environments influence the practice and perception of PBL in ECE.

The qualitative approach focused on exploring how parents and caregivers conceptualize the role of play in Early Childhood Education, rather than examining individual lived experiences. This approach was essential for understanding the different ways in which families approach PBL and the types of play activities they provide for their children at home. Through this lens, the study looked to capture how perceptions of play are shaped by broader cultural, social, and educational contexts, which cannot be adequately understood through quantitative methods.

3.3 Research Design

This study employed a case study design to explore the influence of home environments on PBL in ECE within Mazabuka District. According to Yin (2018) a case study is a research method that involves an in-depth, detailed examination of a single instance, event, or phenomenon within its real-life context. A case study design was chosen because it allowed for an in-depth examination of the complex relationships between family perceptions, home practices, and Early Childhood Education. The design is particularly suited to understanding how various contextual factors shape the way PBL is implemented and perceived within families. This approach enabled the study to focus on the specific context of Mazabuka, capturing the diversity of experiences and practices that exist within different families in the district.

Using a case study approach, the research gathered rich, qualitative data through in-depth interviews, focus group discussions, and observations. These methods provided multiple perspectives from parents, caregivers, and early childhood educators, offering a comprehensive understanding of how the home environment contributes to play-based learning. The case study design allows for a holistic analysis of the issue, focusing on the interplay between different variables within the specific context, while also providing insights that may be relevant to other similar settings (Kothari, 2019). Ultimately, the case study design proved to be an effective way to study the complexities of home environments and their role in shaping Early Childhood Education practices in Mazabuka.

3.4 Research Site

This study was conducted in Mazabuka District in Zambia's Southern Province. The district was purposively selected due to its distinct socio-economic and cultural characteristics, which provide a meaningful backdrop for exploring the influence of the home environment on play-based learning in Early Childhood Education. Mazabuka comprises both urban and rural communities,

with a wide disparity in household income levels, parental education, and access to learning materials. Economically, the district includes families involved in formal employment, farming, and informal trading, which influence the availability of resources for children's learning at home. Socially, variations in family structure such as single-parent households, extended families, and guardian-led homes affect the level of adult engagement in children's early learning. Culturally, Mazabuka is home to diverse ethnic groups, including the Tonga, Lozi, and Bemba, among others. Each group holds unique beliefs and practices surrounding child-rearing, play, and education, which impact the kind of learning children are exposed to at home (Banda 2020). Traditional norms regarding gender roles, responsibilities of young children, and value placed on formal education and play also shape how play-based learning is perceived and practiced in different households. By selecting Mazabuka as the research site, the study was able to capture how these diverse socio-economic statuses, cultural beliefs, and community norms influence the way families support or hinder play-based learning. The presence of both well-resourced and under-resourced ECE centres in the district further enabled the study to explore how home environments interact with external educational inputs.

3.5 Study Population

The study population comprised individuals who are directly involved in the early development and education of children aged 3 to 6 years in Mazabuka District, Zambia. These included Early Childhood Education (ECE) teachers and family members or caregivers who provide care and learning support to young children within the home environment. The focus on this population was driven by the study's aim to explore the influence of the home environment on play-based learning.

Teachers included in the study were drawn from public and community-based early childhood education centres that implement or are familiar with play-based learning methodologies. These professionals were selected based on their direct classroom experience with children in the target age group and their ability to provide insights into the interplay between school-based learning and children's home experiences.

Family members primarily parents, grandparents, or guardians were considered essential to the study population due to their central role in shaping the home learning environment. Their interactions with children, cultural practices, and attitudes towards learning and play were critical for understanding the broader socio-cultural context in which children grow and learn. The study

particularly targeted those caregivers who were actively engaged in the child's day-to-day education and play routines, as they were best positioned to offer detailed and meaningful perspectives on the topic. By selecting participants from both the educational and domestic spheres, the study population was designed to provide a comprehensive understanding of how home environments support or hinder play-based learning in early childhood.

3.6 Sample Size

A target sample size of 25 participants was initially planned, including 5 teachers and 20 family members from various households. This composition was designed to capture the multifaceted nature of home environments and their impact on early childhood education. The inclusion criteria for the study focused on teachers with experience in play-based learning practices and family members who were actively involved in the home-based education of children aged 3 to 6 years.

However, in qualitative research, the final sample size was not strictly predetermined. Instead, the study employed the principle of data saturation, where data collection continues until no new information was given (Kerlinger 2018). Data saturation was observed after 17 participants had been interviewed, with no new insights emerging. After interviewing three more participants (bringing the total to 20), the information remained consistent, confirming that saturation had been reached. This flexible approach helped guarantee that the research findings were valid. In addition, family members selected for inclusion were those who had direct involvement with the child's education, while those not actively engaged with the child's learning were excluded from the study. This allowed for a focused analysis of the home environment's role in shaping play-based learning in the Mazabuka District.

3.7 Sampling Procedure

The study utilized purposive sampling to ensure the selection of participants who possessed specific characteristics or knowledge pertinent to the research focus on the home environment's influence on PBL. Purposive sampling is a non-probability sampling technique where participants are selected based on specific characteristics or qualities relevant to the study (Palinkas et al. 2015). For the family member sample, 20 homes were chosen based on criteria that aimed to represent a diverse range of educational levels, and family structures. These criteria included the involvement of family members in the child's early education, the socio-economic status of the household, and the family's awareness or use of play-based learning practices. Only households where children

were between the ages of 3 to 6 years and where there was active parental involvement in the child's learning were selected for inclusion.

Furthermore, five ECE teachers were selected from local ECE centres because of their direct involvement in implementing play-based learning practices in their teaching environments, providing valuable insights into how the home environment influences or interacts with educational practices at the centre. Teachers were selected based on their experience in Early Childhood Education, as well as their familiarity with play-based learning methodologies.

Exclusion criteria was applied which helps to ensure that only those participants with relevant experience and knowledge were included in the study (Taherdoost 2016). Family members who were not actively involved in their children's education or those whose children were outside the 3 to 6-year age range were excluded. Additionally, teachers who did not engage in play-based learning practices or who were not directly involved in early childhood education settings were excluded from the study. This approach ensured that the data collected reflected the most relevant and impactful perspectives on play-based learning in the context of the home environment.

3.8 Data Collection Methods

Data collection in qualitative research involves employing methods that facilitate a deep exploration of participants' experiences, perceptions, and practices (Williams, 2016). In this study, three primary data collection methods were used: semi-structured interviews, focus group discussions, and observations.

Semi-structured interviews served as a primary method for collecting individual perspectives. According to Clara (2020), semi-structured interviews allow for a balance between guided questions and open-ended responses, enabling participants to share their thoughts in a flexible yet structured manner. Interviews were conducted with family members and educators to explore their perceptions, experiences, and challenges regarding PBL. Focus group discussions (FGDs) were employed to gather collective insights from educators. FGDs are particularly valuable in qualitative research as they encourage interaction among participants, leading to richer data and a deeper understanding of shared experiences (Morgan, 2018). Observation was also used to triangulate the data collected from interviews and FGDs. Observations allow researchers to capture real-life interactions and behaviours in natural settings (Denscombe, 2020). This method was employed in both home and Early Childhood Education centre environments to document

children's play behaviours, engagement with materials, interactions with family members and peers, and teacher facilitation of play activities.

3.9 Data Collection Instruments

To ensure consistency and reliability in data collection, structured instruments were used for each method. These instruments facilitated the systematic gathering of data and enhanced the credibility of findings. A semi-structured interview guide was developed for both family members and educators. The flexibility of the semi-structured format enabled the researcher to ask follow-up questions where necessary, ensuring a thorough exploration of key themes (Bryman, 2016). The guide comprised open-ended questions that allowed participants to articulate their experiences while maintaining a structured approach. For family members, the interview guide focused on their understanding of PBL, the types of play activities encouraged at home, the availability of play materials, and the challenges faced in supporting children's learning through play. For educators, the questions explored their observations of children's engagement in PBL, the influence of home environments on learning readiness, and strategies for bridging home and school learning.

A structured focus group discussion (FGD) guide was employed to facilitate interactive sessions among educators. The guide contained key discussion prompts designed to elicit reflections on caregivers' roles in fostering PBL, the adequacy of home resources for supporting play-based activities, and the challenges encountered in reinforcing PBL at school. The structured nature of the guide ensured that all FGDs covered similar themes, allowing for comparability across sessions while giving participants the freedom to express their views (Gibbs, 2017). Audio recordings of these discussions provided an additional layer of data verification and allowed for an in-depth analysis of group dynamics and emergent themes.

An observation checklist was developed to document behaviours, interactions, and environmental factors relevant to PBL. The use of a standardised checklist ensured consistency in observations, allowing for systematic data collection across different settings (Merriam and Tisdell, 2016). The checklist was divided into two sections: home observations and Early Childhood Education centre observations. In home settings, the checklist recorded aspects such as the types of play materials available, the nature and frequency of play interactions between children and caregivers, and the extent to which play was integrated into daily routines. It also captured the level of parental engagement and encouragement in children's play activities. In Early Childhood Education

centres, the checklist focused on children's participation in play-based activities, the availability and use of learning materials, teacher facilitation strategies, and peer interactions.

To ensure the validity and clarity of the instruments, a pilot study was conducted with two family members and one educator outside the main research sample. This piloting process helped the researcher assess the appropriateness of the questions and the clarity of language used in the interview and FGD guides, as well as the practicality of the observation checklist. Feedback from the pilot study led to minor adjustments in wording and sequencing of questions to enhance understanding and flow. The pilot also confirmed that the instruments were effective in capturing data relevant to the research questions and were well-aligned with the qualitative design of the study.

3.10 Procedure for data collection

Data collection, as defined by Williams (2016), involves the systematic gathering of information relevant to a study's objectives. For this qualitative study, the process was carefully structured to explore how the home environment influences play-based learning in ECE within the Mazabuka District of Zambia. Three data collection methods were employed, each tailored to provide in-depth and multifaceted insights.

3.10.1 Interviews

Interviews were a primary method of data collection, conducted with both family members and educators. Semi-structured interviews were used, allowing a balance between guiding questions and flexibility for participants to share their experiences freely. For family members, the interviews sought to explore their perceptions, practices, and challenges regarding PBL within the home setting. Each interview lasted approximately 30–45 minutes and was conducted in the participant's home or a neutral location to create a comfortable environment. For educators, the interviews focused on their observations of how home environments influenced children's readiness for and engagement in PBL activities at school.

3.10.2 Focus Group Discussion

These interviews lasted an average of 40 minutes and were conducted in their respective Early Childhood Education centres. Focus group discussions (FGDs) were employed to gather collective insights from educators. Groups of 4–6 teachers participated in each session, which provided an

interactive platform for discussing shared experiences and challenges related to implementing PBL. The FGDs were guided by a structured discussion framework, lasted approximately one hour, and were audio-recorded to capture detailed responses.

3.10.3 Observation

Observation sessions were also conducted to triangulate the data gathered from interviews and FGDs. Observations took place in both home and Early Childhood Education centre settings. In homes, the focus was on children's play behaviours, interactions with family members, and the types of materials or activities available. In Early Childhood Education centres, the observations focused on children's engagement in play based learning activities, peer interactions, and teacher facilitation. Field notes were recorded to capture contextual details and nuances that might not emerge in interviews.

These data collection methods were chosen to ensure a holistic understanding of the research problem. The semi-structured interviews provided individual perspectives, the FGDs fostered collective insights, and the observations offered a first-hand look at behaviours and interactions in natural settings. Together, they provided a robust framework for exploring the complex relationship between the home environment and PBL in ECE.

3.11 Data analysis

For this study, data were analysed using thematic analysis, ensuring alignment with the research questions and purpose of the study. Thematic analysis was chosen for its flexibility and effectiveness in identifying patterns and themes across qualitative data, making it particularly suited for exploring the influence of the home environment on play-based learning (PBL) in Early Childhood Education (ECE). According to Scott (2019), thematic analysis involves systematically identifying, analysing, and reporting patterns (themes) within qualitative data. The analysis process followed six key steps: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and integrating findings into a cohesive narrative. The data were collected through interviews, focus group discussions, and observations, and each method was analysed separately before themes were consolidated for interpretation.

3.11.1 Interviews

Interviews were transcribed verbatim, and the transcripts were carefully read and re-read to ensure familiarity with the data. During the initial coding phase, key phrases, ideas, and patterns were identified. Recurring concepts such as parental engagement in play, the availability of play materials, and the influence of cultural beliefs on play emerged from the data. These initial codes were grouped into broader categories, capturing essential aspects of how the home environment facilitates or hinders play-based learning. Further refinement of the themes was done through cross-analysis of different interviews to ensure consistency in responses and identify common patterns across participants.

3.11.2 Focus Group Discussions

Focus group discussions were analysed by considering both the content of the discussions and the dynamics between participants. The transcripts were reviewed to identify dominant themes, contrasting viewpoints, and areas of consensus among the participants. Coding was conducted by noting key phrases, shared concerns, and significant discussions on the role of the home environment in PBL.

3.11.3 Observations

Observation data were analysed by reviewing field notes and categorizing recurring behaviours, interactions, and environmental factors that influenced play-based learning. The analysis focused on identifying patterns in children's play behaviours, their engagement with available materials, and the role of family members in facilitating or restricting play. Integrating insights from interviews, focus group discussions, and observations, a comprehensive understanding of the influence of the home environment on play-based learning was developed. Themes were further reviewed to ensure they accurately represented participants' experiences and aligned with the study's objectives.

3.12 Trustworthiness

Trustworthiness in research refers to the quality of being worthy of trust and confidence, particularly regarding the credibility, reliability, and validity of the study and its findings. It is a fundamental concept in qualitative research, used to evaluate the integrity and applicability of the study (Saldaña, 2021). To ensure the trustworthiness of this qualitative study, various strategies were employed, focusing on credibility, transferability, dependability, and confirmability. These

measures helped maintain the accuracy and reliability of the findings while ensuring that the perspectives of participants were authentically represented.

Credibility was enhanced through several approaches that ensured the findings accurately reflected participants' experiences. Triangulation was applied by using multiple data collection methods, including semi-structured interviews, focus group discussions, and observations, which helped verify the consistency of the findings. Additionally, member checking was conducted, allowing participants to review summaries of their responses and provide clarifications or corrections where necessary. To strengthen credibility further, the researcher engaged with participants over an extended period, building trust and ensuring that responses were natural and uninfluenced by the researcher's presence. Peer debriefing also played a role in refining the study, as discussions with academic peers and supervisors helped challenge potential biases and validate interpretations.

Transferability was ensured by providing a rich, detailed account of the research setting, participant characteristics, and socio-cultural factors within Mazabuka District. The use of thick description allowed readers to understand the context in which the study was conducted, making it easier to determine the relevance of the findings to similar environments. Additionally, purposeful sampling was applied to include participants from diverse socio-economic backgrounds, which enhanced the applicability of the study's insights across various early childhood education contexts.

Dependability was achieved by maintaining consistency in the research process, ensuring that the study could be replicated under similar conditions. An audit trail was kept, documenting all research decisions, data collection methods, and analysis procedures to provide transparency. The coding of data was conducted multiple times at different intervals to ensure consistency in thematic development. Furthermore, the research methodology underwent expert review by professionals in early childhood education and qualitative research, which helped refine the approach and uphold the study's rigor.

Confirmability was addressed by implementing strategies to minimize researcher bias and ensure that findings were grounded in participants' perspectives. Reflexivity was maintained through the use of a journal where the researcher documented personal biases and how they were managed throughout the study. Direct quotations from participants were included in the findings, providing authentic representations of their viewpoints. Additionally, data triangulation was applied by

cross-checking findings across different data sources, including interviews, focus group discussions, and observations, to confirm consistency. By employing these trustworthiness strategies, the study ensured that its findings were credible, transferable, dependable, and confirmable. These measures strengthened the overall reliability and validity of the research, making it a valuable contribution to understanding the influence of the home environment on play-based learning in Early Childhood Education in Mazabuka District.

3.13 Ethical Considerations

Ethical considerations were carefully observed throughout this study to ensure that participants' rights, dignity, and well-being were protected. According to (Banerjee 2015) scientists and researchers must always adhere to a certain code of conduct when collecting data from people. The research adhered to ethical guidelines governing qualitative studies, ensuring that all procedures were conducted with integrity and respect for participants. Before data collection commenced, ethical approval was obtained from the relevant institutional review board to confirm that the study met ethical research standards. Additionally, permission was sought from the Ministry of Education and other relevant authorities in Mazabuka District to conduct research within the selected Early Childhood Education settings.

Informed consent was a fundamental aspect of the study. Participants were provided with clear information about the research objectives, methods, potential risks, and benefits. This was done through an informed consent form, which participants were required to read and sign before taking part in the study. For child participants, consent was obtained from their parents or legal guardians, ensuring their rights and welfare were safeguarded. Participants were also informed of their right to withdraw from the study at any point without any consequences, furthermore, permission was granted before each photo/ picture was captured.

Confidentiality and anonymity were strictly maintained to protect the identities of participants. Pseudonyms were used instead of real names, and all data was securely stored with restricted access to ensure privacy. Additionally, all personal identifiers were removed from the transcripts and research reports. Data was stored in password-protected digital files, while any physical documents were kept in a locked cabinet accessible only to the researcher.

The principle of non-maleficence was upheld by ensuring that no psychological, emotional, or physical harm came to participants. The study's topics and questions were designed to be non-

intrusive and sensitive to the participants' experiences. In instances where participants expressed discomfort, they were allowed to pause or discontinue their participation. Respect for cultural sensitivities was also prioritised, particularly given the diverse backgrounds of participants. The researcher remained mindful of language use and socio-cultural norms when conducting interviews and focus group discussions. Where necessary, local languages were used to facilitate clear communication, and participants were encouraged to express themselves in the language they were most comfortable with.

To ensure research integrity, the findings were reported honestly, without distortion or misrepresentation. The researcher avoided any form of fabrication or selective reporting of data. Additionally, all sources used in the study were properly cited, ensuring that intellectual property rights were respected and plagiarism was avoided.

3.14 Chapter Summary

The study utilized a qualitative research approach and a constructivist epistemology paradigm to examine how home environments influenced play-based learning in Early Childhood Education in Mazabuka District, Zambia. A case study design was adopted, enabling an in-depth exploration of the relationships between family perceptions, home practices, and PBL. The research site, Mazabuka District, was chosen for its socio-economic and cultural diversity, providing a unique context for the study. A purposive sampling procedure was employed to select 25 participants, including 20 family members and 5 Early Childhood Education teachers, ensuring diverse perspectives were represented. Data collection methods included semi-structured interviews, focus group discussions (FGDs) and thematic analysis was used to analyse the collected data.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.0 Chapter overview

This chapter brings to light a comprehensive overview of the key findings that came out from the study based on the three research questions. The themes presented in this chapter were generated through a thematic analysis process guided by Braun and Clarke's (2006) six-phase approach. After data collection, all interviews and focus group discussions were transcribed verbatim and thoroughly read to gain familiarity with the content. Initial coding was then carried out manually, where key phrases, repeated ideas, and relevant patterns related to the research questions were

highlighted. These codes were grouped into categories based on similarities and recurring concepts, such as parental engagement, availability of resources, and cultural perceptions of play.

From these categories, broader themes and sub-themes were developed to capture the essence of the data. The themes were reviewed and refined to ensure they accurately reflected the participants' views and were clearly aligned with the research questions. Finally, each theme was defined and named, with supporting data extracts used to illustrate and validate the findings. This systematic process ensured that the analysis remained grounded in the voices of participants while providing meaningful insights into how the home environment influences play-based learning in Early Childhood Education.

4.1 Elements of play-based learning in the home environment

This theme responds to research question number one which was based on investigating elements of play-based learning present in the home environments. The main finding is that various supportive elements for PBL are indeed found in the home environments of ECE learners. This became evident through several thematic insights gathered during interviews and focus group discussions. When the question was posed, the following sub themes: availability of play spaces, safety considerations, parental engagement, variety of toys and materials, and the contribution of play activities to learning and development.

4.1.1 Availability of play spaces

During interviews, parents consistently shared that they ensure their children have designated areas for play within the home environment. These play spaces vary, with some parents providing indoor areas filled with toys, while others allow their children to engage in outdoor play with materials like old tires and utensils for pretend cooking. P1 described their play area as *“just okay; it has different things they use for playing.”* P12 added, *“My child plays both indoors and outdoors, sometimes even with the neighbours’ children. They have plenty of space.”*



Figure 1: Learner playing in the yard.

Teachers confirmed the value of these spaces. T3 noted, *“Play areas at home give children the freedom to play openly and try different activities.”* T4, *“When children have both indoor and outdoor spaces, it really helps them express themselves.”* The availability of both indoor and outdoor play areas enables children to engage in a range of play activities, from creative play like pretend cooking to physical games such as hide and seek. This variety in play spaces was seen as valuable by parents and teachers alike in fostering a broad spectrum of play-based learning experiences that support various developmental needs.

4.1.2 Safety considerations in play-based learning

Safety was a critical theme discussed during the focus group discussions, as parents expressed a strong commitment to creating safe play environments. Many parents indicated that they actively ensure all sharp and dangerous objects are not near their children’s play areas and frequently check for hazards like broken glass or unsafe materials. P4 emphasized, *“The key word is safety. I make sure nothing dangerous is lying around.”* P17 stated, *“I keep batteries, knives, and all sharp things far from the play area. I want them to play safely.”*

Teachers echoed this priority for safety. T2 said, *“Safety is the first step to effective learning; a safe child can explore freely without worry.”* T3 mentioned, *“I always remind parents to make sure the play area is free of hazards.”*

This emphasis on safety not only facilitates free play but also gives children the confidence to explore their surroundings without fear of injury. The findings highlight that a safe environment is essential for PBL, as it allows children to engage fully and freely in their play activities.

4.1.3 Parental engagement in play-based learning

The level of parental engagement in children's play-based learning activities varied across households. While some parents actively participate in play, such as joining ball games or assisting in making play materials, others prefer to observe from a distance, allowing children to play independently. P10 shared, *"I join in here and there by simply kicking the ball back to them."*

P3, *"I mostly just watch, but if they need help with something like making a doll, I'm there."* P6 explained, *"I sometimes join in their games when they ask me, like when they need a pretend 'customer' in their shop."*

Teachers emphasized the positive impact of parental involvement. T1 stated, *"When parents get involved, it adds to the child's excitement and learning."* T2 added, *"Engagement doesn't have to be constant, but occasional interaction really boosts the child's motivation to play."* This variation reflects different parenting styles and levels of engagement in the play process. Parents who engage in play activities with their children contribute positively to the learning environment by modelling behaviours and creating shared experiences. This interaction fosters a deeper bond and may enhance the child's learning by making play a collaborative and interactive process.

4.1.4 Variety of toys and materials for play

The availability of diverse toys and materials was another key element of PBL discussed during the focus group discussions. Many parents mentioned providing a mix of store-bought toys, such as balls and toy cars, along with homemade items like dolls, cooking sets, and objects created from clay. P2 shared, *"I made her a doll and a brazier for pretend cooking."* P3 noted, *"I bought my boy a toy car and a ball. Sometimes, they also make things from clay."* P4 said, *"They use cardboard boxes to make pretend houses or cars; they love it."*

Teachers agreed on the importance of varied play materials. T3 explained, *"Diverse toys encourage different skills; they're a foundation for creative thinking."* T1 added, *"Even simple homemade items allow for imaginative play, which is crucial for learning."* The variety of toys

and materials contributes significantly to the child’s learning experience, as it provides them with the tools needed to engage in both structured and open-ended play. This diversity supports cognitive, physical, and social development, making the home environment more conducive to holistic play-based learning.

4.1.5 Contribution of play activities to learning and development

Parents observed tangible learning resulting from their children’s play activities. For example, some parents noted that their children demonstrate new skills acquired through play, such as singing songs, counting, and cooking.

P13 proudly shared, *“My daughter even cooked porridge for me once. I was surprised but proud.”*



Figure 2: Learner play, pretending to cook porridge.

P2 said, *“He shows interest in fixing things, and I see in him an engineer. He’s always trying to fix broken toys.”* P3 also shared, *“She learned to count up to 20 while playing with her friends and now loves showing us her counting skills.”*

Teachers also saw the developmental benefits of play activities. T4 remarked, *“I see children applying what they learn at home in the classroom; it really reinforces their skills.”* T2 mentioned, *“Play activities provide foundational skills that support later academic learning.”* These discussions highlight that play at home not only supports skill development but also encourages

children to apply what they have learned in meaningful ways. The integration of play and learning allows children to explore their abilities, express creativity, and develop a sense of accomplishment, all of which contribute to their overall growth.

The findings within this theme emphasize the importance of a supportive home environment that incorporates varied play spaces, safety, parental involvement, diverse materials, and activities that foster learning and development. These elements collectively create a nurturing atmosphere where play-based learning thrives, underscoring the vital role of the home environment in the early educational experiences of ECE learners.

4.2 Perceptions of family towards play based learning

This theme responds to research question number two which was based on examining the perceptions of families toward play-based learning in the home environment. The findings indicate that while families generally hold positive views about PBL, their attitudes are shaped by a mix of supportive beliefs, practical challenges, and cultural influences. These attitudes were explored through interviews and focus group discussions, revealing several sub themes including understanding the benefits of PBL, concerns and challenges in supporting PBL, the influence of technology and screen time, cultural and family beliefs about play, and parental concerns about non-supportive play activities.

4.2.1 Understanding the benefits of play-based learning

One of the prominent themes that emerged was the families' awareness of the importance of play-based learning for their children's development. Most parents and caregivers recognized that PBL contributes significantly to cognitive, emotional, and social growth. They valued play as a natural way for children to explore their environment, develop essential skills, and prepare for formal schooling.

Parental perspectives: P3 noted, *“Play helps my child learn how to solve problems and interact with others naturally. It builds confidence and curiosity.”* P2 also stated, *“Through play, my child has become better at communicating and understanding others' feelings. It's amazing to see them grow.”*

Teacher Observations: T1 commented, *“Parents often tell me how their children develop new skills through play, like teamwork and critical thinking.”* T2 noted, *“Play-based learning builds*

foundational skills, such as literacy and numeracy, in a way that feels natural and enjoyable for children.”



Figure 3: Classroom that promotes use of locally made teaching aids and play based learning.

Families who recognize the developmental benefits of play-based learning are more likely to support their children’s engagement in such activities. These families see play not just as entertainment, but as an essential tool for promoting holistic growth, including cognitive, emotional, and social development.

4.2.2 Concerns and challenges in supporting play-based learning

While families generally acknowledged the benefits of PBL, many reported challenges that limit their ability to support it effectively. These challenges range from structural issues, such as lack of space or financial constraints, to social factors like time limitations and work-related stress.

Parental Perspectives: P13 shared, *“I struggle to find time to engage with my child’s play because of work commitments. By the time I get home, I’m too exhausted.”* P9 said, *“We live in a small house, so there’s no room for active play. We have to adapt by playing quieter games indoors.”*

Teacher Observations: T1 stated, *“Some parents tell me they feel overwhelmed and can’t always prioritize play at home because of other responsibilities.”* T2 added, *“Limited resources like safe play spaces or affordable toys are common barriers parents mention.”*

Despite the recognition of play-based learning's benefits, many families face significant barriers in supporting it at home. These challenges, which include time constraints, space limitations, and financial concerns, can prevent parents from fully engaging in their children's play. Addressing these issues will require targeted interventions, such as community support and awareness-building about accessible play options.

4.2.3 Influence of technology and screen time on play-based learning

Technology and screen time emerged as key influences on families' perceptions of PBL. While parents often appreciated the educational potential of digital tools, they also expressed concerns about over-reliance on screens, which could detract from physical and imaginative play.

Parental perspectives: P5 stated, *"my child loves watching coco melon on my phone and sometimes learns new words."* P6 observed, *"He uses the phone to learn ABC songs, but I try to balance screen time with other activities. It's hard because they love watching, but I want them to play outside more."*

Teacher observations: T2 emphasized, *"I encourage parents to balance screen time with physical activities to promote well-rounded learning."* T3 shared, *"Educational videos can help, but hands-on play is essential for building motor and creative skills."*

Technology plays a dual role in families' approach to play-based learning. While it can serve as a valuable educational tool, excessive screen time may limit opportunities for physical and creative play. Families that balance technology with more traditional forms of play foster a more well-rounded development for their children.

4.2.4 Cultural and family beliefs about play-based learning

Cultural beliefs and family traditions significantly shape perceptions of PBL. For many families, play is viewed as an integral part of childhood and an essential component of learning. However, cultural norms can also impose limitations on the types of play deemed acceptable or beneficial. Parental Perspectives: P11 stated, *"In our family, play is encouraged; it's part of learning."* T1 shared, *"Parents here are generally very supportive of play as part of learning."* T5 echoed, *"I rarely encounter any cultural restrictions against play-based activities."* However, in some cases, traditional beliefs about education as structured, academic activity may overshadow the perceived

value of free, unstructured play. These findings suggest that families are generally open to PBL but may benefit from greater awareness of its broader educational and developmental benefits.

Most families support play as part of their children's learning, and cultural beliefs generally favour play-based learning. However, in some cases, traditional ideas about education may limit the acceptance of unstructured play. Educating families on the broader benefits of PBL could further increase support for its integration into home routines.

4.2.5 Parental concerns about non-supportive play activities

While families largely support PBL, some parents expressed concerns about playing activities they considered unproductive or risky. These concerns reflect a cautious approach to ensuring children's safety and development. Parents provided examples of their reservations:

Parental perspectives: P7 noted, *"I don't approve of climbing trees; it's too risky."* P6 shared, *"Other children, especially those not in school, sometimes play games that don't support learning and can distract my child."*

Teacher observations: T1 mentioned, *"I advise parents to guide play in a way that encourages learning, especially when there are risks involved."* T2 added, *"It's important to create a balance between safety and the developmental value of play."*

Parents are often concerned about ensuring that playing activities are both safe and developmentally appropriate. While they support PBL, they seek guidance on how to navigate the risks associated with certain activities. Clear communication and support from educators can help families strike a balance between safe play and enriching developmental experiences.

These insights reflect a cautious attitude among parents, who prefer to limit their children's exposure to activities that may pose risks or detract from positive development. Parents seem to be selective in encouraging activities that align with both safety and learning goals. The findings in this theme reveal that while family members hold generally positive perceptions of play-based learning, their attitudes are shaped by a mix of considerations, including guidance from teachers, safety concerns, appropriate use of technology, and the cultural acceptance of play. Collectively, these perspectives underscore the role of family attitudes in creating a supportive environment for

PBL at home, balancing the desire for educational growth with caution regarding safety and influence from non-supportive play activities.

4.3 The Influence of home environment on play based learning in ECE centres

This theme responds to research question number three which was based on understanding the influence of home environment on play based learning in ECE centres. Through interviews and focus group discussions, several important sub themes emerged that highlight the interconnectedness between home play and play-based learning at school. The sub themes include the alignment of play activities between home and school, the role of the home environment in preparing children for PBL, the availability of resources for play, and the importance of community support. These factors, as discussed by both parents and teachers, play a crucial role in shaping children's engagement with PBL at school.

4.3.1 Alignment of home play with early childhood education play practices

During interviews, both parents and teachers emphasized the importance of aligning home-based play with play activities at ECE centres. This theme emerged as participants shared how consistency between these environments contributes to children's smooth adaptation to structured play and enhances their learning.

Parental perspectives: P18 stated: *"I ensure that some of the things my child does at home, like colouring and solving puzzles, are the same as what they do at school. It helps them understand better."* P14 noted: *"At home, we play without much structure. This makes it harder for my child to follow the routines at school."*

Teacher observations: T1 explained: *"Children whose parents align their home play with what we do in class tend to adapt more quickly and are more confident."* T4 commented: *"We see a clear difference in children whose home activities mirror structured play. They are more comfortable participating in school activities."*

The alignment of home play with school play practices fosters continuity, enhancing children's ability to transition smoothly between the two environments. When parents adopt school-inspired play practices at home, children show greater adaptability and confidence at ECE centres.

4.3.2 Influence of home environment on play-based learning readiness

This theme emerged from discussions where participants described how the home environment influences a child's readiness for play-based learning at ECE centres. Parents and teachers highlighted the role of nurturing, flexible, and resourceful home settings in preparing children for interactive and exploratory learning.

Parental perspectives: P3 shared: *"We try to provide space and materials for our children to explore and play freely. It helps them become more curious."* P4 noted: *"Our home is small, but we make small adjustments to allow our child to have some room for play."*



Figure 4: A learner with her siblings playing/ reading at home.

Teacher observations: T3 observed: *"Children from homes where they can play freely and explore tend to show greater readiness for PBL activities."* T4 added: *"A supportive home environment that encourages exploration gives children an edge when they join structured play in school."*

The quality of the home environment plays a pivotal role in shaping a child's readiness for PBL. Homes that promote exploration, creativity, and adaptability provide a strong foundation for children to engage effectively in school-based activities.

4.3.3 Availability of resources for play at home

Participants highlighted the availability of resources at home, such as toys, books, and puzzles, as a significant factor influencing children's engagement in PBL activities at ECE centres. This theme reflects the tangible support that home resources provide in reinforcing school-based learning. Parental Perspectives: P5 explained: *"I buy dolls, puzzles, and books for my child. They always use these to practice what they learn in school."* P6 shared: *"We don't have many toys, but we improvise with everyday items like spoons and plates to encourage play."*

Teacher Observations: T5 noted: *“Children with access to resources at home come to school ready to engage in similar activities, showing more confidence and enthusiasm.”* T4 observed: *“When children have limited access to educational materials at home, it sometimes takes longer for them to adapt to PBL activities here.”*

The availability of resources at home directly impacts children’s ability to engage with PBL at ECE centres. Homes equipped with educational materials help bridge the gap between informal play and structured learning, promoting better preparedness and engagement.

4.3.4 Community support for play-based learning

Community involvement emerged as a critical factor in supporting safe and constructive play at home. Parents and teachers highlighted how the community’s collective efforts influence children’s ability to engage positively in play, both at home and at school. Parental Perspectives: P16 stated: *“Our neighbours look out for each other’s children, ensuring they play safely. It creates a good environment for learning.”* P17 commented: *“When the community discourages harmful games, it helps us guide our children toward better activities.”*

Teacher Observations: T1 mentioned: *“When communities support the concept of play-based learning, children benefit from a safer and more encouraging environment.”* T3 added: *“Community involvement reinforces what we teach, as children feel supported in all areas of their lives.”*

Community support significantly enhances the effectiveness of play-based learning. A cooperative and vigilant community creates a safe and enriching environment that complements school efforts, ensuring children receive holistic support.

4.3.5 Characteristics of an ideal home environment for play based learning

Participants described features of an ideal home environment that would support children’s engagement in PBL. This theme emerged as parents and teachers identified physical and emotional aspects of the home that contribute to a conducive learning atmosphere.

Parental Perspectives: P4 suggested: *“The home should have books, toys, and a quiet space for children to focus.”* P5 noted: *“A calm, clean, and well-lit environment makes it easier for children to learn and play effectively.”*

Teacher Observations: T5 stated: *“Children from homes with structured and resourceful setups often show better focus and creativity in school.”* T3 added: *“Familiarity with educational resources at home helps children feel more comfortable with similar tools at school.”* An ideal home environment combines physical resources and emotional support, creating a nurturing atmosphere for children to engage in PBL. Such settings enable children to transition seamlessly between home and school learning environments, maximizing their developmental potential.

The findings underscore the interconnectedness between play at home and at ECE centres. A supportive home environment characterized by aligned play practices, adequate resources, community involvement, and nurturing conditions plays a critical role in enhancing children’s readiness and ability to engage in PBL at school. Strengthening this relationship through collaborative efforts between families, communities, and educators can significantly enhance the effectiveness of early childhood education.

4.4 Chapter Summary

Chapter Four presented a comprehensive overview of the research findings concerning the elements of play-based learning in early childhood education learners' home environments. The study explored three main areas: the presence of PBL elements in homes, family perceptions of PBL, and the relationship between home play and ECE centre play. Key findings revealed that supportive elements for PBL, such as dedicated play spaces, safety measures, parental engagement, diverse toys and materials, and the positive contribution of play to learning and development, were prevalent in many homes. Families generally viewed PBL as beneficial, though their engagement varied, with some seeking teacher guidance while others faced obstacles like screen time distractions. Additionally, the home environment significantly shaped children's readiness for PBL in ECE centres, with adaptable spaces and available resources enhancing their engagement. Community support and the need for parental training were also identified as critical factors in fostering a positive play-based learning atmosphere at home. Overall, the findings emphasized the vital role of the home environment in facilitating effective PBL experiences for young learners.

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.0 Chapter overview

This chapter discusses the findings of the study which was based on exploring the influence of home environment on Play Based Learning in early childhood education in Mazabuka district, Zambia. The discussion of findings are presented based on the objectives of the study which were:

5.1 Elements of PBL in the home environment

The findings from this study underscored key elements that supported play-based learning (PBL) within the home environment for Early Childhood Education learners. Research consistently highlighted the pivotal role of a nurturing home environment in fostering children's cognitive, social, and emotional development. This study's findings aligned with the work of Otieno and Mutua (2021) and brought attention to critical themes, including the availability of designated play spaces, safety considerations, parental involvement, the diversity of toys and materials, and the role of play in promoting holistic learning and development. These foundational elements were crucial in cultivating an effective PBL environment at home.

5.1.1 Availability of play spaces

The provision of designated play areas, both indoors and outdoors, emerged as a significant factor that enhanced PBL. Families who created flexible and accessible play spaces enabled children to engage in a variety of activities, ranging from imaginative role-playing to physical games. These spaces catered to diverse developmental needs, fostering creativity, problem-solving, and physical coordination. Pellegrini and Holmes (2019) echoed these findings, asserting that varied play areas encouraged exploration, creativity, and physical engagement, which were essential for a child's holistic development. The adaptability of these spaces allowed children to shift between different types of play, supporting cognitive growth and the development of fine and gross motor skills. However, Spencer and Thomas (2021) presented a contrasting perspective, suggesting that formal, structured play areas were not a prerequisite for effective PBL. Instead, they argued that children's creativity and engagement often flourished in informal, unstructured environments, which promoted resourcefulness and adaptability. This divergence highlighted the need for a balanced approach that considered both structured and unstructured play opportunities.

5.1.2 Safety considerations

Safety emerged as another critical theme in supporting play-based learning at home. Parents and caregivers emphasized the importance of ensuring that play areas were free from hazards, providing a secure environment where children could explore freely and confidently. This sense of security was instrumental in fostering a positive and engaging play experience, which contributed to skill acquisition and independence. Thomason et al. (2019) similarly found that safe environments encouraged exploratory behaviours, enabling children to take risks, learn through trial and error, and develop resilience. The findings from this study further emphasized that when children felt safe, they were more likely to engage deeply in play activities that promoted cognitive, social, and emotional growth. Families played a crucial role in creating these safe play spaces by minimizing risks and ensuring that children had the confidence to engage fully in their learning experiences.

In addition to physical space and safety, the active involvement of parents and caregivers was identified as a cornerstone of effective play-based learning. Parents who actively engaged in their children's play by participating, facilitating, or even observing contributed significantly to their development. This engagement not only strengthened the parent-child bond but also provided opportunities for guided learning and skill development. The variety of toys, materials, and activities available at home further enriched the play experience, allowing children to explore new ideas, practice problem-solving, and develop creativity. Collectively, these elements highlighted the multifaceted nature of a nurturing home environment in promoting play-based learning for early childhood development.

5.1.3 Parental engagement

Parental involvement emerged as a significant theme in the study, with varying levels of engagement observed across households. Parents who actively engaged in their children's play positively contributed to the learning environment by modelling behaviours, sharing experiences, and fostering a supportive relationship. These actions aided in the social and emotional development of their children. These findings aligned with Baker and Nelson (2021), who demonstrated that parental participation in play enhanced children's language skills, social abilities, and emotional intelligence. Through active involvement in play, parents created shared

experiences that strengthened the parent-child bond and facilitated holistic development within a nurturing framework.

5.1.4 Variety of toys and materials

The availability of diverse toys and materials at home, including both store-bought and homemade items, also emerged as a critical component of play-based learning (PBL). Families who provided a range of materials enabled children to engage in various types of play, from structured activities to imaginative scenarios. This diversity supported cognitive and social growth, as children learned to explore, innovate, and use their surroundings creatively. Fantuzzo et al. (2019) echoed these findings, noting that diverse resources stimulated creativity, problem-solving, and cognitive skills. However, contrasting perspectives, such as those presented by Dupont and Lemoine (2020), suggested that an overabundance of materials could hinder creativity. They argued that children might become overly reliant on ready-made items, limiting their ability to repurpose everyday objects and develop problem-solving skills. This highlighted the importance of balancing resource availability with opportunities for innovation and adaptability.

5.1.5 Contribution of play activities to learning and development.

The study further revealed that parents observed tangible development from their children's play activities, including improved counting skills, enhanced language development, and practical abilities. These observations aligned with Ginsburg (2020), who viewed play as a vital process through which children internalized and applied new skills. Home-based play activities, as emphasized by Moyo and Dube (2020), helped lay a strong foundation for school readiness by bridging informal learning experiences with formal education. Parents integrated play with practical life skills, transforming the home environment into a valuable space for reinforcing early learning concepts and preparing children for future educational success.

Overall, the findings emphasize that a supportive home environment, characterized by accessible play spaces, safety, parental engagement, diverse materials, and skill-building activities, is essential for effective PBL. These elements collectively contribute to children's holistic development, allowing them to explore, learn, and grow within a nurturing atmosphere. The study's findings align with established theories and research, underscoring the importance of

fostering a conducive environment for learning at home, which serves as a bridge between informal and formal educational experiences.

Additionally, the findings corresponded with Bronfenbrenner's (1979) ecological systems theory, which posited that a child's development was deeply influenced by interactions within their immediate environment. According to this theory, play was viewed as a vital process through which children internalized and applied new skills. Within the home, these interactions were facilitated by the presence of supportive caregivers, accessible resources, and safe, adaptable spaces, underscoring the interconnected nature of a child's learning experiences. By emphasizing the interplay between environmental factors and development, this study provided valuable insights into the importance of fostering a nurturing home environment for effective PBL. These findings contributed to the broader discourse on early childhood education, reinforcing the idea that intentional and supportive practices at home were pivotal for enhancing children's learning and growth.

5.2 Perceptions of families toward play-based learning

The findings from this study revealed the multifaceted perceptions of families toward play-based learning (PBL) within the home environment. Parental attitudes, beliefs, and levels of involvement emerged as critical factors influencing the extent to which PBL was embraced and implemented in households. Families exhibited diverse perspectives, ranging from viewing play as an essential component of holistic development to prioritizing its role in preparing children for formal education. These findings aligned with Mwansa and Chanda (2020), who emphasized the role of the microsystem encompassing family interactions and dynamics in shaping children's development. Similarly, Epstein's (2018) framework on family involvement in education highlighted the pivotal role parents play in enhancing children's learning experiences through active participation, engagement, and support.

5.2.1 Understanding the benefits of PBL

The study highlighted the widespread recognition of the transformative impact of PBL on children's development. Parents frequently cited improvements in cognitive, emotional, and social skills as key points of engaging their children in play-based activities. For example, participants consistently noted how play naturally facilitated learning, with P14 commenting, *"Play helps my*

child learn how to solve problems and interact with others naturally." This perspective supported findings by Hirsh-Pasek et al. (2019), who identified play as a critical mechanism for fostering foundational skills in children, such as problem-solving, communication, and teamwork.

Families also acknowledged the role of play in promoting holistic development, emphasizing its ability to enhance critical thinking, creativity, and interpersonal skills. These observations echoed the conclusions of Agyemang and Boateng (2020), who argued that play-based activities foster innovation, emotional intelligence, and social connections. Parents in the study often described how collaborative and imaginative play activities helped their children build resilience, regulate emotions, and develop empathy. For example, they recounted scenarios where children resolved conflicts, expressed their emotions, and engaged in teamwork through shared play, illustrating the profound emotional and social learning that PBL facilitates.

Notably, the study also identified differing perceptions of PBL's purpose among families. While many parents valued play for its holistic developmental benefits, some viewed it primarily as a means to prepare children for formal education. A group of parents interviewed emphasized the importance of play in developing specific skills, such as literacy, numeracy, and early academic readiness. This focus on school preparation was consistent with Perry (2019), who observed that families often framed play within the context of school readiness, prioritizing structured activities that align with academic goals. For instance, some parents in this study highlighted the integration of counting games, storytelling, and alphabet-based play activities to prepare their children for classroom environments.

5.2.2 Concerns and challenges in supporting PBL

Despite widespread recognition of the benefits of play-based learning (PBL), families reported encountering several barriers to its effective implementation in the home environment. A recurring challenge was time constraints, as many parents struggled to balance work commitments with actively engaging in or supervising their children's play. P13 remarked, *"I struggle to find time to engage with my child's play because of work commitments,"* highlighting the broader societal pressures that limit parental involvement in PBL. These findings were consistent with Mbatha (2021), who identified socioeconomic factors as significant determinants of families' ability to engage in play-based activities, particularly in households where parents work long hours or face inflexible schedules.

Space limitations and financial challenges also emerged as critical obstacles to PBL. Families living in urban environments or small homes frequently reported a lack of adequate space for active or outdoor play. This observation aligned with Ginsburg (2021), who noted that urban living conditions often restrict children's opportunities for physical play, leading to reduced access to the developmental benefits associated with free movement and exploration. Financial constraints further compounded these challenges, as some families were unable to afford educational play materials or toys that could enrich the learning experience. These findings underscored the importance of community-based interventions and public initiatives aimed at providing affordable and accessible play resources for families, particularly in underserved areas.

5.2.3 Influence of technology and screen time

The dual role of technology in supporting and complicating PBL emerged as a central theme in the study. On the one hand, families acknowledged the educational potential of digital tools such as apps, videos, and online games in enhancing children's cognitive development. For example, P19 shared, *"My child loves watching educational videos, and I see them learning new words and concepts,"* illustrating how technology, when used appropriately, can complement traditional play activities. This perspective aligned with Lareau et al. (2019), who observed that digital media, when integrated thoughtfully, can provide valuable learning opportunities and support skill development.

On the other hand, concerns about the overuse of technology were prevalent among families. Many parents expressed apprehension that excessive screen time might detract from physical, imaginative, and social forms of play. P10 explained, *"I try to ensure my child plays outside as well, but they're often more drawn to the screen,"* capturing the tension between the convenience of technology and the need to encourage hands-on, exploratory play. These concerns resonated with Berk (2019), who emphasized the importance of balancing screen-based learning with physical and creative activities to promote motor skills, creativity, and overall well-being. Berk further advocated for establishing boundaries around technology use to ensure children benefit from a diverse range of play experiences.

The study's findings indicated that addressing barriers to play-based learning (PBL) necessitated collaborative efforts among families, schools, communities, and policymakers. Community-based initiatives were identified as crucial, particularly in creating safe play spaces and organizing parent

workshops aimed at addressing challenges related to time, space, and resources. These initiatives could empower parents with practical strategies for integrating PBL into daily routines. For instance, workshops could focus on using low-cost, readily available materials for play activities, ensuring that children from diverse socioeconomic backgrounds have equitable opportunities to engage in meaningful play. Schools and local organizations also had a role to play by offering guidance on incorporating effective and affordable play materials into home environments. Such efforts aligned with broader goals of fostering inclusivity and accessibility in early childhood development.

Promoting awareness about the balanced use of technology in play was another key recommendation derived from the findings. Families expressed a need for guidance on navigating the benefits and risks of digital tools, particularly in balancing screen-based learning with physical, imaginative, and social forms of play. Schools and community organizations could facilitate this by providing informational sessions or resources on how to integrate technology meaningfully without allowing it to overshadow traditional play activities.

Policymakers were seen as pivotal in addressing systemic challenges that hindered PBL. Developing child-friendly urban spaces, such as community playgrounds and parks, emerged as a critical step in ensuring that children in urban or space-constrained households could engage in active play. Subsidizing educational play materials for low-income families was another actionable strategy, highlighting the role of public policy in mitigating financial barriers and promoting equity in early learning environments.

5.2.4 Cultural and family beliefs about play

The study also revealed the influence of cultural norms and family traditions in shaping perceptions of PBL. Families generally viewed play as a natural and integral part of childhood, reflecting a universal recognition of its value. These findings were consistent with Chileshe and Mwape (2021), who emphasized the cross-cultural importance of play in fostering children's development. However, traditional beliefs about education as a structured and formal process sometimes limited the acceptance of unstructured or free play. In such contexts, play was often regarded as secondary to academic preparation, with families prioritizing activities perceived as directly linked to school readiness, such as literacy and numeracy exercises.

Addressing these cultural perceptions required efforts to reframe play as an essential component of learning, rather than a distraction from academic goals. Schools and educators could lead this shift by integrating PBL into formal curricula and engaging families in conversations about its benefits for cognitive, social, and emotional development. Community dialogue and culturally sensitive awareness campaigns could further bridge the gap between traditional educational values and contemporary understandings of holistic childhood development.

These findings align with Ginsburg (2022), who highlighted the profound influence of cultural values on parental attitudes toward play. Cultural norms and traditions often shaped how families in this study perceived the role of play in their children's development. While the majority of families supported play-based learning (PBL) and acknowledged its developmental benefits, there was an identified need for greater education about its broader value. Educating parents on the cognitive, emotional, and social advantages of PBL could deepen its integration into everyday home routines and help dispel misconceptions about its purpose.

5.2.5 Parental concerns about non-supportive play activities

Despite general support for PBL, some families expressed concerns about specific types of play activities, particularly those perceived as unproductive or risky. These cautious attitudes reflected a protective approach, consistent with Epstein (2020), who found that parents often prioritize safety over potential developmental benefits when selecting play activities. For instance, P9 in this study stated, *"I don't approve of climbing trees; it's too risky,"* illustrating the tension between encouraging independence and ensuring safety. Such concerns underscored the importance of addressing parental fears and misconceptions about risky play while promoting its developmental value.

Teachers participating in this study highlighted the critical role of guided play in balancing safety with developmental opportunities. This perspective aligns with the recommendations of Bundy et al. (2019), who advocated creating risk-managed play environments that enable children to explore, problem-solve, and develop resilience in a controlled setting. By providing families with strategies for supervised yet independent play, educators can help parents navigate the balance between fostering growth and ensuring their children's safety.

Overall, the findings suggest that families generally hold positive perceptions of PBL and recognize its developmental benefits. However, structural barriers, time constraints, and cultural beliefs influence the extent to which families can fully embrace and support PBL. These findings echo themes in existing literature and underscore the need for targeted interventions to address these challenges. For instance, parental education initiatives could focus on raising awareness about the value of diverse play activities, including those that involve calculated risks, while emphasizing their role in developing independence, creativity, and problem-solving skills.

Community support structures also play a crucial role in addressing barriers to PBL. Initiatives such as establishing safe, communal play spaces or offering workshops for parents can provide practical solutions to common challenges like time constraints and limited access to resources. Furthermore, strategies to balance the integration of technology with physical play can ensure that children benefit from both digital and hands-on learning experiences.

5.3 The influence of home environment on play based learning in ECE centres

This section discusses findings regarding the influence of home environment on play based learning in ECE centres, including alignment of practices, home environment influences, availability of resources, community support, and characteristics of an ideal home environment for play-based learning. These findings are compared to existing literature to highlight similarities and contrasts.

5.3.1 Alignment of play activities between home and school

The study revealed that aligning home-based play with Early Childhood Education (ECE) play practices significantly enhances children's adaptability, participation, and overall learning. Parents and teachers in the study highlighted that when activities at home mirror those practiced at schools such as puzzle-solving, colouring, and group-based games children experience smoother transitions between the two environments. This alignment fosters continuity, builds confidence, and supports holistic development. For example, teachers observed that children who engaged in structured activities at home were better prepared for classroom routines, adapted more readily to group dynamics, and exhibited greater engagement in collaborative play.

This finding aligns with Akyeampong et al. (2021), who underscored the importance of consistent and meaningful interactions across different social environments in fostering cognitive

development. Akyeampong argued that children thrive when their primary social contexts such as the home and school are synchronized to provide scaffolding for their emerging abilities. By creating congruence between the play practices in these microsystems, children benefit from a cohesive learning experience that supports their developmental progress.

Similarly, Lillard (2019) emphasized the interplay between the home and school as critical microsystems in a child's developmental ecosystem. Lillard's work highlighted that when these environments are aligned, children can build on their experiences more effectively, leveraging the skills learned in one setting to thrive in the other. This interplay creates a reinforcing cycle of growth, where the familiarity of activities across contexts reduces potential stress or cognitive dissonance.

Edwards et al. (2018) provides further empirical support for this perspective, demonstrating that children whose home play mirrored structured school play exhibited stronger classroom engagement, adaptability, and social participation. Their research showed that consistency in play themes and practices not only created a seamless learning experience but also helped children build foundational skills that were directly transferable to the classroom. For instance, activities like storytelling or pretend play practiced at home helped children actively contribute during similar activities in school, enhancing their confidence and communication skills.

These findings underscore the importance of creating synergy between home and school environments in early childhood. Educators and caregivers can collaborate to establish shared play practices that bridge the two settings, ensuring that children experience consistency in their developmental journey. Practical measures could include providing parents with guidance on incorporating school-like activities into home routines or creating take-home materials that reinforce classroom themes.

Moreover, these results highlight the value of communication and partnerships between parents and teachers in fostering a holistic approach to learning. By sharing insights into children's play preferences and progress, both groups can contribute to a cohesive support system that nurtures children's emerging abilities across contexts. Ultimately, aligning home and school play practices ensures that children are not only better prepared to navigate both environments but also empowered to achieve their full developmental potential.

However, contrasting findings by Mukherji and Albon (2015) highlight that while aligning home play with ECE practices offers clear benefits, many parents encounter significant challenges in replicating structured play at home. These challenges stem from knowledge gaps about ECE play methods or resource limitations that hinder the implementation of similar activities. These barriers were also evident in the current study, where some parents expressed difficulty in understanding how to apply school-based play techniques or lacked access to appropriate materials. For instance, P8 shared, *"I'm not sure how to guide my child in the kinds of activities they do at school,"* emphasizing the need for improved communication and support from ECE centres. These findings suggest a pressing need for ECE programs to actively engage parents through workshops, resources, and regular updates to empower them in aligning home and school play practices effectively.

5.3.2 Role of the home environment in preparing children for PBL

The study also identified the home environment as a critical determinant of children's readiness for play-based learning (PBL) at ECE centres. Homes that fostered exploration, creativity, and flexibility provided children with a strong foundation for engaging in interactive and structured activities at school. Parents who actively encouraged exploration play and provided enriching resources reported that their children displayed heightened curiosity, adaptability, and enthusiasm during PBL activities. For example, children from homes where parents promoted activities such as building blocks, role-playing, or arts and crafts were better equipped to participate in similar activities at ECE centres, showing greater confidence and developmental progress.

This finding aligns with research by Fantuzzo et al. (2004), who demonstrated that nurturing home environments encourage children to explore, experiment, and develop critical cognitive and social skills necessary for structured learning. Fantuzzo's work emphasized that the quality of interactions and the availability of play materials at home significantly shape children's readiness for educational activities, particularly in early childhood settings.

Similarly, Epstein (2018) observed that homes offering ample opportunities for free play and imaginative activities enhanced children's readiness to engage in formal educational environments. Epstein argued that unstructured, creative play at home builds foundational skills such as problem-solving, collaboration, and self-regulation, which are critical for success in PBL

settings. These findings underscore the importance of fostering supportive home environments that complement the objectives of ECE programs.

In addition, Kim and Kim (2017) emphasized the significance of proximal processes in a child's development, arguing that interactions within supportive home environments lay the foundation for children to meet the demands of external systems, such as schools. This study's findings corroborate this perspective, affirming that the quality of the home environment is pivotal in shaping children's readiness to embrace play-based learning (PBL) practices. For example, children who are regularly exposed to engaging, thought-provoking activities at home, such as storytelling, creative arts, or interactive games, demonstrate greater adaptability and confidence when transitioning into structured school environments. These interactions, whether initiated by parents or caregivers, contribute to developing the cognitive, emotional, and social skills necessary for successful engagement in PBL contexts.

Nevertheless, challenges persist, as highlighted by Perry et al. (2010), who argued that the effectiveness of home environments in preparing children for educational settings is often constrained by external factors, particularly socioeconomic constraints. These constraints were echoed by some participants in this study, who discussed how limited space, financial resources, and access to educational materials hindered their ability to create conducive play environments at home. P15 noted, *"I want to engage my child in more educational play, but I just can't afford the toys or books they need."* This sentiment highlights the disparity between families, where the quality of home environments may vary significantly due to economic conditions. These findings suggest that while the home environment plays a crucial role in preparing children for PBL, broader systemic support is necessary to ensure equitable readiness for PBL across diverse households. As such, addressing socioeconomic disparities through policy interventions, community programs, and support networks is essential to levelling the playing field for all children, regardless of their family background.

5.3.4 Availability of resources for play

The availability of educational resources at home such as books, puzzles, toys, and creative materials emerged as a significant factor influencing children's engagement in PBL at ECE centres. Homes equipped with these resources provided children with a head start in engaging with structured play activities, fostering confidence, curiosity, and problem-solving skills. Children

from resource-rich environments were better able to develop essential skills such as critical thinking and collaboration during play-based activities. For example, P6 described how providing her child with a variety of building blocks and art supplies allowed her to create different scenarios and solve problems, thereby reinforcing the developmental goals of PBL. The presence of these resources was particularly crucial in fostering an environment that encouraged active participation, self-directed learning, and experimentation.

This finding aligns with Dawes et al. (2021) theory of cognitive development, which emphasizes the importance of hands-on materials in facilitating learning through play. Piaget's theory, which asserts that children actively construct knowledge by manipulating and exploring their environments, supports the view that educational resources are essential to early cognitive development. By interacting with materials such as building blocks, puzzles, or art supplies, children engage in a process of exploration and problem-solving that fosters critical thinking, creativity, and independence. Similarly, Shonkoff and Phillips (2000) found that resource-rich environments are associated with improved cognitive and social development in young children, underscoring the pivotal role of learning materials in promoting development.

However, the study also revealed variability in how parents utilized available resources. While some parents demonstrated creativity and actively engaged their children in using these materials, others faced challenges due to time constraints, lack of understanding, or limited knowledge of how to guide children's play effectively. For instance, P12 noted, *"I know what's best for my child, but I simply don't have enough time to sit down and play with them."* Dupont (2020) similarly cautioned that the mere presence of resources is insufficient; their effectiveness depends on how parents facilitate and guide children's engagement with them. The active involvement of parents in play-based activities has been shown to enhance the developmental value of the materials, ensuring that children not only interact with them but also gain the most from their educational potential. For example, parents who used play to introduce concepts such as numbers, shapes, or colours supported their children's cognitive growth in ways that passive interaction alone could not achieve.

The study highlighted the significant role of community involvement in promoting constructive play at home. Participants emphasized that a supportive and vigilant community reinforces school-based learning and creates a safer, more stimulating environment for children's play. Parents and

teachers noted that when communities actively support play-based learning through shared resources, child-friendly spaces, or collaborative play initiatives, children benefit from enriched learning experiences and enhanced social development. This underscores the idea that communities are not merely passive observers of children's growth, but active contributors to fostering environments that promote learning and well-being.

This finding aligns with Epstein's (2018) framework for family-school-community partnerships, which underscores the importance of collective efforts in enhancing children's learning. Epstein's model advocates for active collaboration among families, schools, and community stakeholders to create a unified support system for children's development. According to Epstein, when families, schools, and communities work together, they can provide a more comprehensive and supportive network that fosters children's growth both academically and socially. This approach builds a sense of shared responsibility and encourages all parties to contribute to the educational and developmental needs of children.

Similarly, Bronfenbrenner's (1979) ecological systems theory posits that the mesosystem, comprising interactions between family, school, and community, significantly shapes development. Bronfenbrenner's theory emphasizes the interconnectedness of various social systems and how they influence a child's development. The findings in this study reinforce the idea that a strong community presence complements family and school systems, creating a holistic environment for children's growth. When communities engage with schools and families to provide a safe and supportive environment for play, children are more likely to benefit from cohesive and consistent learning opportunities that span multiple environments.

However, contrasting findings by Kim and Kim (2017) indicate that community support can often be inconsistent, particularly in urban areas characterized by limited social cohesion. This inconsistency was also evident in the current study, where some participants described strong community involvement, such as neighbourhood groups or local organizations facilitating play opportunities, while others noted its absence. P6 shared, "*We have a community playgroup that meets every Saturday, and my children enjoy it, but I know some of my neighbours don't have that.*" This variability in community support reflects the diverse social dynamics that exist within different communities, where some may be more socially cohesive and proactive in supporting children's development, while others may face challenges in organizing collective efforts.

5.3.4 Importance of community support

Despite the benefits of a supportive home environment for play-based learning (PBL), the findings revealed significant challenges, particularly in low-income settings. Perry et al. (2010) observed that families in such contexts often struggle to provide adequate physical resources or emotional support, which can impede children's readiness for PBL. This limitation was echoed in the current study, where some parents described financial constraints, lack of space, or limited time as barriers to creating conducive home environments. One parent noted, "I wish I could provide more educational toys, but I can only afford to make do with what I have," underscoring the impact of financial strain on parents' ability to create optimal learning environments at home.

Parents in resource-constrained households often relied on improvised materials or outdoor community spaces to compensate, demonstrating their resilience in overcoming the limitations they face. For example, P13 shared, "*We use whatever we can find at home to keep the children engaged old magazines, sticks, and stones become toys,*" reflecting a resourcefulness that allowed children to still engage in creative play despite material scarcity. While these improvised solutions help bridge gaps, they may not always provide the same developmental benefits as purposefully designed educational resources. This highlights the need for greater access to affordable and accessible educational tools for families in low-income settings.

While these findings highlight significant challenges, such as resource limitations, varying levels of parental engagement, and inconsistent community support. As noted by Edwards et al. (2018), consistent and collaborative efforts among all stakeholders can help mitigate these challenges. However, more targeted interventions are needed to ensure that families, particularly those in low-income settings, have the resources, knowledge, and support they need to create environments that foster children's engagement in PBL. These efforts could include increased access to educational resources, community programs that support PBL, and workshops aimed at educating parents about the importance of emotional support in play. Only through such comprehensive support can we ensure that all children, regardless of their socioeconomic background, have the opportunity to thrive in both home and school environments.

These findings are consistent with Bronfenbrenner's (1979) ecological systems theory, which emphasizes the interplay between physical and emotional environments in fostering children's

development. According to this theory, the microsystem, comprising immediate environments such as the home, plays a pivotal role in shaping early development.

Addressing these challenges will require a collaborative approach. Schools could provide workshops for parents to bridge knowledge gaps, while policymakers and community organizations can advocate for accessible resources and safer play environments. Ultimately, fostering stronger connections between families, schools, and communities will enhance the effectiveness of PBL, contributing to holistic early childhood development and long-term educational success.

5.4 Chapter Summary

Chapter Five discusses the findings of a study assessing the influence of the home environment on play-based learning in early childhood education in Mazabuka, Zambia. The study's objectives included investigating elements of PBL in learners' home environments, establishing Family perceptions towards PBL, and exploring the relationship between home play and ECE centre activities. Findings highlight critical elements that support PBL, such as the availability of play spaces, safety considerations, parental engagement, and diverse toys and materials, which collectively foster children's cognitive, social, and emotional development. The study indicates that families generally view PBL positively, although engagement varies based on factors like seeking guidance from teachers, perceived obstacles, and cultural beliefs. Moreover, it emphasizes the home environment's role in preparing children for PBL in ECE centres, noting that adaptable home settings and educational resources enhance children's readiness and confidence. The findings suggest that community support and the need for parental training are vital for facilitating effective PBL, thereby bridging the gap between home and formal education. Overall, the chapter underscores the importance of a nurturing home environment in enhancing children's learning through play.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.0 Chapter overview

This chapter presents the conclusion of the study and recommendations based on its findings. The purpose of this study was to explore the influence of the home environment on play-based learning in early childhood education in Mazabuka District, Zambia. By examining various elements of the home environment, family perceptions, and the relationship between home and school play practices, the study aimed to identify factors that support or hinder children's engagement in PBL within ECE centres.

6.1 Conclusion

The findings from this study underscore the critical role the home environment plays in shaping children's readiness and capacity to engage in play-based learning within ECE centres. The study identified 5 key elements of the home environment that support PBL, including adaptable play spaces, accessible educational resources, positive family attitudes, community involvement, and family commitment to child development.

Regarding the research question based on the elements of play based learning, the study found the following elements, accessible play spaces, safety measures, active parental engagement, and diverse educational materials played a pivotal role in supporting children's development. These elements were critical in facilitating cognitive, social, and emotional growth, ultimately laying the foundation for successful early childhood education.

The availability of adaptable play spaces, both indoors and outdoors, allowed children to engage in various activities that catered to their developmental needs. These spaces promoted creativity, problem-solving, and physical activity, which are integral to children's learning. Although some studies argued that less structured settings could also foster creativity, this study highlighted the importance of offering flexible play environments where children could explore and learn freely.

Safety emerged as a significant factor in the study, with parents emphasizing the importance of creating secure environments for children to play. A safe environment not only reduced the risk of injury but also enabled children to explore more confidently, which is crucial for their development. Ensuring that play areas were free from hazards fostered a sense of independence and curiosity, empowering children to engage more fully in play-based learning.

Parental involvement also emerged as a key factor in supporting PBL. The study demonstrated that when parents actively participated in their children's play, they enhanced the learning experience by modelling behaviours and fostering emotional and social development. The engagement of parents in play helped create a supportive relationship that contributed to children's growth. The availability of diverse toys and materials in the home provided further opportunities for learning, stimulating creativity and problem-solving skills. While there was some concern that an overabundance of resources could limit children's creativity, the general consensus was that a range of materials encouraged exploration and cognitive development.

The study emphasized that the home environment serves as a vital space for laying the groundwork for school readiness. By incorporating play into daily routines, parents helped reinforce early learning concepts, such as language, numeracy, and problem-solving skills. These activities provided children with a strong foundation for their educational journey, bridging informal learning with the more structured approaches they would encounter in school.

Overall the findings reinforced the idea that a supportive and resource-rich home environment is essential for promoting play-based learning. The home, when equipped with the right elements such as flexible play spaces, safety, parental involvement, and diverse materials, plays a significant role in children's development and readiness for school. The study highlights the need for greater attention to these factors in early childhood education, as they collectively contribute to the holistic development of children and their success in learning.

The second research question was based on the perceptions of family towards PBL in the home environment. In examining Family perceptions, the study highlighted a generally positive view of PBL, with families acknowledging its benefits for children's learning and development. The findings of this study revealed that families hold diverse perceptions and attitudes toward play-based learning (PBL) in the home environment, with several factors influencing its embrace and implementation. While the majority of families recognized the positive impact of PBL on children's development, including improvements in cognitive, emotional, and social skills, there were variations in how PBL was viewed and prioritized. Many parents acknowledged the importance of play in fostering learning, with some emphasizing its role in preparing children for formal education, especially in developing foundational skills like literacy and numeracy.

Despite the widespread recognition of the benefits of PBL, the study highlighted several barriers that families faced in implementing it effectively. Time constraints, particularly due to work commitments, were a significant challenge. Many parents struggled to find the time to engage in or supervise their children's play, and this issue was compounded by space limitations and financial constraints. Families in urban areas, especially those living in small homes, faced difficulties in providing adequate space for physical or outdoor play, and financial barriers often restricted access to educational materials. These challenges reflect the broader societal pressures and socioeconomic factors that can limit families' ability to fully support PBL.

Technology emerged as a dual-edged factor in this study. On one hand, families recognized the educational value of digital tools, such as educational apps and videos, in enhancing children's learning. However, concerns were raised about the potential negative effects of excessive screen time, with parents noting that children were often more drawn to screens than to physical or imaginative play. This highlights the need for a balanced approach to technology use in PBL, ensuring that it complements rather than replaces traditional forms of play that promote creativity and physical engagement.

Cultural norms and family traditions also played a significant role in shaping parents' attitudes toward PBL. While most families viewed play as a natural and essential part of childhood, some cultural beliefs about education as a structured process limited the acceptance of unstructured play. Additionally, concerns about the safety of certain play activities, such as climbing trees, revealed a tension between fostering independence and ensuring children's safety. This caution reflects broader societal concerns about the risks associated with certain types of play and the need for a careful balance between encouraging exploration and managing potential dangers.

The findings of this study suggest that addressing the barriers to PBL requires a collaborative approach involving families, schools, communities, and policymakers. Initiatives such as community-based programs to create safe play spaces, workshops to educate parents on integrating PBL into daily routines, and the provision of low-cost, effective play materials can help overcome some of the challenges families face. Policymakers could play a critical role by supporting these efforts through the development of child-friendly urban spaces and the subsidization of educational play materials for low-income families.

Overall while families generally held positive views toward PBL and recognized its developmental benefits, challenges such as time constraints, space limitations, financial barriers, and cultural beliefs shaped the extent to which they could fully embrace and support PBL in their homes. Addressing these challenges through targeted interventions and support systems can create a more conducive environment for PBL, fostering the holistic development of children. The study's findings underscore the importance of continued efforts to raise awareness about the value of play, provide resources to families, and balance the role of technology in play-based learning.

The third research question was based on the influence of home environment on play based learning in ECE centres. The influence of home environment on play based learning in ECE centres is crucial for fostering children's developmental progress. The findings of this study demonstrate that aligning home-based play with structured ECE practices creates a seamless and supportive environment for children to thrive both cognitively and socially. When activities at home mirror those practiced in schools, children experience smoother transitions between these environments, resulting in enhanced adaptability, participation, and learning.

Teachers and parents consistently highlighted the benefits of such alignment, emphasizing that structured home activities, like puzzle-solving and collaborative play, prepare children for classroom routines and group dynamics. This alignment fosters continuity, confidence, and a sense of familiarity, which helps children excel in both settings. For instance, children exposed to school-like play activities at home were observed to exhibit greater classroom engagement, collaborative skills, and self-regulation.

However, challenges persist, as some parents face difficulties in replicating structured school play due to knowledge gaps, resource limitations, or time constraints. This underscores the need for targeted support from ECE programs to empower parents through workshops, resources, and consistent communication. Addressing these challenges would ensure that more families can participate in creating supportive play environments at home.

The home environment emerged as a significant determinant of children's readiness for play-based learning. Homes that encourage exploration, creativity, and flexibility not only support children's curiosity and confidence but also enhance their ability to engage in PBL activities at ECE centers. The presence of resources like puzzles, art supplies, and books was particularly influential in fostering critical thinking and problem-solving skills. However, the mere availability of these

resources is insufficient without parental involvement. Parents who actively guide children in using these materials amplify their developmental benefits, transforming passive interaction into meaningful learning experiences.

Socioeconomic disparities also play a critical role in shaping home environments. Limited access to resources, financial constraints, and lack of space were identified as barriers for some families, which in turn affected children's readiness for PBL. These findings call for systemic interventions to address inequities, such as community programs, policy support, and accessible resources, to ensure all children benefit equally from play-based learning opportunities.

Community support was another key factor identified in fostering a conducive environment for children's play. Participants noted that communities that provide shared resources, safe play spaces, and collaborative initiatives contribute to enriched learning experiences. This finding highlights the importance of collective efforts among families, schools, and communities in promoting holistic child development.

In conclusion, the influence of home environment on play based learning in ECE centres is pivotal in creating a cohesive developmental trajectory for children. Aligning these environments promotes continuity, builds confidence, and supports holistic learning. However, challenges related to resource availability, parental involvement, and socioeconomic factors must be addressed through targeted support and systemic interventions. Furthermore, fostering partnerships between families, schools, and communities can create an ecosystem that nurtures children's growth across all developmental domains. Addressing these multifaceted factors ensures that every child is afforded the opportunity to achieve their full potential in play-based learning contexts.

6.2 Recommendations

In light of the study's findings, several practical and targeted recommendations are proposed to enhance the role of the home environment in supporting play-based learning (PBL) in early childhood education.

To begin with, head teachers and ECE teachers should take the lead in developing structured programmes aimed at strengthening parental engagement in play-based learning. This can be achieved through workshops, community meetings, and the distribution of informational resources

that highlight the benefits of PBL and guide parents on how to create conducive home environments for play and learning. These initiatives would promote alignment between the learning experiences offered at school and those at home, ensuring a more holistic developmental approach for the child.

In communities where families have limited financial resources, it is important for community leaders, ECE teachers, and local non-governmental organisations (NGOs) to collaborate in organising training sessions that focus on the use of low-cost and locally available materials to support play-based learning. These sessions would equip parents with the skills to create educational toys and play resources from everyday items, thereby making play-based learning accessible to all children regardless of economic background.

Given the safety concerns expressed by many families regarding play spaces at home, local authorities, including ward councillors and community development committees, should prioritise the development of safe and accessible community play areas. Such spaces would not only provide children with a secure environment for engaging in play but also promote social interaction and community cohesion. Community involvement in the planning and maintenance of these spaces is essential for their long-term sustainability and effectiveness.

In response to the growing influence of screen time on children's learning experiences, ECE teachers and health education officers should provide families with clear and practical guidance on how to manage screen time in a balanced manner. This should include strategies for limiting non-educational screen exposure and suggestions for integrating educational content that complements play-based learning. Such guidance would help parents understand the potential effects of technology on their children's development and make informed decisions about screen use.

Furthermore, ECE teachers, in collaboration with Parent-Teacher Associations (PTAs) and community health workers, should conduct safety awareness campaigns that address the need for secure and child-friendly play areas within the home. These campaigns could offer simple and cost-effective strategies for improving safety, enabling children to engage freely in play without exposure to preventable hazards.

Lastly, curriculum specialists and ECE teachers should work together to develop and distribute easy-to-follow materials that suggest age-appropriate PBL activities for parents to implement at home. These guides should be culturally relevant, developmentally appropriate, and tailored to the specific learning needs of young children. Providing such resources would empower parents to take an active role in their children's learning journey and strengthen the connection between home and school environments.

6.3 Suggestions for further studies

Further research could investigate children's perspectives on their play experiences in both home and school settings, capturing insights into how they perceive and benefit from PBL across environments.

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APPENDICES

Appendix 1: interview guide for family members

The purpose of this study is to collect data on the impact of the home environment on Play Based Learning in Early Childhood Education in Mazabuka District, Zambia.

1 Investigate the elements of PBL in the home environment of the ECE learner.

- a) Can you describe the spaces in your home where the child usually plays?
- b) What makes these areas suitable for play?
- c) How often do you engage in play activities with the child?
- d) What does a typical playtime look like?
- e) What types of toys or materials does the child have access to for play?
- f) Which ones do they prefer?
- g) In what ways do you feel that the play activities at home contribute to the child's learning and development?
- h) Can you share any specific instances where you observed the child learning something new through play at home?

2. Establish family perception towards PBL in the home environment.

- a) How often do you ask for guidance from the teacher on activities to engage in??
- b) Have you noticed any obstacles that may prevent the child from engaging in play-based learning activities?

- c) How does screen time or technology use at home affect the child's opportunity for play-based learning?
- d) Are there any cultural or family beliefs that may limit the time the child spends on play-based activities?
- e) Have there been any instances where you felt that the play activities at home might not be supporting the child's learning? Can you explain?

3. Inspect the influence of home environment on play based learning in ECE centres.

- a) According to assignments given, what changes could be made in your home to create a more conducive environment for your child's play-based learning?
- b) Are there any resources or support that you think could help you enhance your child's play-based learning at home?
- c) How do you think your community could support families in improving play-based learning at home?
- d) What kind of information or training would you find helpful in facilitating play-based learning activities?
- e) Can you imagine an ideal home environment for play-based learning? What would it include or involve?

End of observation and thank you for participating in the study

Appendix 2: interview guide for early childhood education teachers

The purpose of this study is to collect data on the impact of the home environment on Play Based Learning in early childhood education in Mazabuka District, Zambia.

1, Investigate the elements of PBL in the home environment of the ECE learner.

1. From your experience, what aspects of a child's home environment have you noticed to be most conducive to play-based learning?
2. How do you think the presence of siblings or other family members influences a child's engagement in play-based activities at home?
3. Can you share examples of how children have demonstrated learning from home-based play activities within the classroom?
4. What role do you believe the physical layout and safety of the home play in facilitating effective play-based learning?
5. How do parental attitudes towards play and education influence the children's play-based learning experiences at home?

2. Establish family perception towards PBL in the home environment.

1. Have you observed any common challenges in children's home environments that seem to limit their play-based learning experiences?
2. In your opinion, what are the most significant barriers parents report that prevent them from engaging in or supporting play-based learning at home?
3. Can you describe any instances where a child's behaviour or engagement in the classroom reflected a possible hindrance to play-based learning at home?
4. How does the economic background of a family impact the resources available for play-based learning in the home?

5. Are there any cultural factors that you've noticed that may restrict or discourage play as a learning method in the home?
3. Inspect the influence of home environment on play based learning in ECE centres.
 1. What advice do you commonly give to parents to enhance play-based learning in their homes?
 2. How can teachers and schools support parents in creating a home environment that is conducive to play-based learning?
 3. What strategies have you found effective in integrating classroom play-based learning experiences with home activities?
 4. Could you suggest any community resources or programs that might assist families in improving play-based learning at home?
 5. What kinds of professional development or resources would help you as an educator to better support parents in fostering play-based learning at home?

End of interview and thank you for participating in the study

Appendix 3: observation checklist

This checklist is designed for observers to systematically record observable aspects of the home environment and child behaviour. The collected data will provide insights into the current state of PBL within homes and help in developing strategies to enhance play-based learning experiences for children.

Observation Checklist

Physical Environment:

- The layout of the play area (organized, cluttered, spacious, confined).
- Safety features of the play area (child-proofing, soft surfaces).
- Accessibility and availability of outdoor play spaces (garden, balcony, courtyard).

Play Materials and Resources:

- Variety of play materials (educational toys, art supplies, books).
- Condition of play materials (new, worn, age-appropriate).
- Evidence of recent play activities (projects in progress, displayed artwork).

Child Engagement and Behaviour:

- Duration and frequency of the child's play sessions.
- Independence and self-direction during play.
- Types of play the child engages in (symbolic, constructive, physical).

Family Interaction and Involvement:

- Level of family member's involvement in the child's play (observation, participation, initiation).
- Type of language used by family members during play (encouraging, directive, educational).
- Responsiveness of the child to family member's involvement.

Learning and Development Indicators:

- Signs of creativity and imagination in play (novel uses of toys, storytelling).
- Evidence of problem-solving or critical thinking (overcoming challenges, puzzles).
- Development of fine and gross motor skills (manipulating objects, coordination activities).

Barriers and Hindrances:

- Distractions present in the environment (TV, electronics, other activities).
- Signs of frustration or disengagement from the child.
- Any observed conflicts or negative interactions related to play.