Understanding and implementing play as a learning pedagogy: Narratives of practitioners in early childhood mobile units

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Abstract: This research examined practitioners' narratives on understanding play as a learning pedagogy in early childhood mobile units. The national curriculum framework encourages practitioners and teachers in early childhood settings to employ a variety of play pedagogies to stimulate young learners to develop core skills in early childhood learning environments. Underpinned by Vygotsky's sociocultural theory, the article draws from the zone of proximal development and social interaction as significant theoretical concepts to examine practitioners' understanding of play as a learning pedagogy in early childhood mobile units. A phenomenological within the qualitative research domain was utilised to gather in-depth data on the topic under investigation. The data was collected through semi-structured interviews with twenty practitioners purposively selected to provide their narratives on understanding play as a learning pedagogy in early childhood mobile units. The Atlas.ti software was used to analyse the collected data using a narrative strategy. The findings revealed that the practitioners maintained a high standard of service delivery within the mobile Early Childhood Care and Education unit contexts, which was transformative, high-quality and play-based. This paper contributes to the existing knowledge of delivering high-quality play-based learning pedagogy in early childhood settings.

Introduction

Play is widely recognised as a crucial component of early childhood education. It supports cognitive, social, emotional and physical development (Whitebread & Basilio, 2013). Play-based learning encourages children to explore, experiment, and solve problems (Zosh et al., 2022). Different types of play, such as free play, guided play and structured play, each offer unique benefits and learning opportunities (Pyle et al., 2020). Structured play fosters cognitive, physical, social and emotional development, teaching children's essential skills like problem-solving, teamwork, resilience, and rule-following in a guided, engaging environment (Mawarpury, 2018). In addition, free play allows children to exercise autonomy and creativity, while guided play involves adult scaffolding to enhance learning outcomes. Play as a learning pedagogy offers numerous benefits, particularly in early childhood education. It supports holistic development by engaging children cognitively, socially, emotionally and physically (Mawarpury, 2018). Through play, learners explore their environments, experiment with ideas and build critical thinking and problem-solving skills naturally and enjoyably. Social interactions during play enhance communication, collaboration and empathy, fostering essential life skills. Moreover, play-based learning encourages creativity and imagination, laying the foundation for innovation and adaptability. The intrinsic enjoyment of play motivates learners, promoting active participation and deeper engagement with learning materials (Cheruiyot, 2024). Despite its advantages, implementing play as a learning pedagogy comes with challenges. Teachers may struggle with balancing structured learning objectives and the open-ended nature of play, especially in resource-constrained environments. Misconceptions about play being unstructured or lacking educational value can result in resistance from parents or school authorities

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(Cheruiyot, 2024). Additionally, large class sizes, limited resources and time constraints may hinder teachers' ability to integrate play into the curriculum effectively. Ensuring inclusivity and catering to diverse needs during play activities can also be challenging. Addressing these barriers requires teacher training, advocacy for the value of play and policies prioritising adequate resources and support for play-based learning.

Play can be categorised into various types, each serving a unique purpose in a child's development. Physical play, such as running, jumping and climbing, supports motor skills, coordination and physical health (O'Connor et al., 2017). Constructive play involves using building blocks or creating art, fostering problem-solving, creativity and spatial awareness. Pretend or imaginative play, including role-playing and make-believe, enhances social skills, language development and emotional expression as children explore different perspectives (O'Connor et al., 2017). Social play, such as games with peers, promotes collaboration, communication and conflict resolution. Meanwhile, independent or solitary play encourages self-reliance and creativity.

Early childhood educators and practitioners facilitate play by creating enriching environments, providing appropriate materials, and engaging in play with children (Tok, 2022). Practitioners use observational and assessment techniques to understand children's developmental progress through play (Brown et al., 2021). However, there needs to be more literature regarding the implementation and effectiveness of play pedagogy, specifically in mobile ECCE units. Most research focuses on stationary early childhood settings typically structured environments such as classrooms or childcare centres, where children engage in planned, consistent activities within a fixed location (Selepe, Nhase et al., 2024). Investigating play pedagogy within mobile early childhood education units is not well understood. Mobile units offer a flexible and accessible alternative to traditional early childhood education, particularly benefiting underserved and rural areas (Selepe, Nhase et al., 2024). These units provide play-based learning opportunities tailored to the needs of diverse communities (Bernal et al., 2023). Likewise, the study addresses the limited understanding of how play-based learning is adapted and perceived across different cultural and socio-economic contexts, particularly in underserved and rural areas.

During the history of early childhood education, social interaction was prioritised, as evidenced in the early works of theorists such as Froebel (1899), Montessori (1976), Dewey (1938) and Vygotsky (1978). In 2015, the Department of Social Development (2015) in South Africa advanced the idea that children learn best through social interaction activities. Contemporary perspectives of Froebel indicate the importance of guided play and interaction involving the learner, the teacher and the peer (Teichert & Helbig, 2024). In Montessori classrooms, teachers are facilitators who rigorously encourage social interaction and collaboration among children (Modest & Mwila, 2023). As cited in Cade (2023), Dewey (1938) advocates experiential learning through social activities and peer interactions, while Vygotsky (1978) affirms that higher-order thinking skills are stimulated through social activities and play pedagogies. These studies emphasise the indispensability of play pedagogy and social interaction in early years' education. Early childhood experts have recently highlighted the advantages of play-based learning in teaching-learning environments. In early childhood education, one of the core beliefs is that play is fundamental to the development of young children. The theoretical and ideological origins of play and its adoption as an ECCE strategy in teaching-learning programmes can be traced back to various regions. The curriculum policy in Australia's Early Years Learning Framework emphasises the play-based learning strategy to promote children's holistic development (Cohrssen, 2021). In addition, the Ghana Education Service encourages teachers to effectively engage children through interactive play-based activities (Quartey & Casely-Hayford, 2023). The South African National Curriculum Framework (NCF) (Department of Basic Education, 2011) recommends integrating play-based pedagogies in early childhood development.

Early Childhood Care and Education (ECCE) in South Africa is underpinned by a strong policy framework promoting equitable access and quality education for young children. The National Development Plan 2030 emphasises the importance of ECCE in addressing socio-economic inequalities and preparing children for formal schooling (Tyilo & Matshoba, 2022). Central to this is the NCF for children

from birth to four years, which guides practitioners in delivering age-appropriate and play-based learning experiences. However, while the policy framework is robust, its implementation often faces challenges, particularly in under-resourced areas (Tyilo & Matshoba, 2022). Disparities in access and quality remain significant, especially in rural and township contexts, where ECCE centres struggle with limited infrastructure, inadequate teacher training, and insufficient learning materials (Tyilo & Matshoba, 2022).

For an international audience, the prioritisation of ECCE in South Africa is particularly interesting, as it reflects both progress and persistent systemic challenges. ECCE is partially funded by the government, with subsidies provided to registered centres; however, many centres rely heavily on parental fees, which limits access for low-income families. Staffing in ECCE centres is another critical issue, as many caregivers and teachers lack formal qualifications or professional development opportunities despite their crucial role in early childhood education (Fredman et al., 2022). Efforts to address these gaps include initiatives like the Expanded Public Works Programme (EPWP), which trains ECCE practitioners and partnerships with NGOs to supplement resources and support. Nonetheless, achieving universal, high-quality ECCE remains complex, requiring sustained investment, improved governance and innovative approaches to overcome structural inequities. Two research questions underpinned this study (Fredman et al., 2022).

- What is the mobile early childhood care and education practitioners' understanding of play pedagogy
- How do mobile early childhood care and education practitioners implement play pedagogy in their units?

Research Purpose

Mobile ECCE units and their programmes appear to be gaining momentum as significant providers of early learning for children aged 0–4 in South Africa, especially in scarce resourced areas. As the name implies, a mobile ECCE programme uses a functional vehicle (mainly a truck), tents (Gazebos), community-based open spaces, different teaching and learning and playing materials, facilitators, food items, drinking water and mobile toilet facilities. Thus, the researchers who teach childhood education preservice teachers and whose research projects focus on early childhood education, explored the practitioners' understanding of play pedagogy and how they implement it in ECCE mobile units. This study uniquely emphasises the narratives and experiences of early childhood practitioners in mobile ECCE units, providing a firsthand account of how play pedagogy is understood and implemented. Additionally, this research contributes to the existing knowledge of play as a learning practice in the childhood education setting. It further strengthens the understanding of various childhood education settings in the education sector, such as mobile ECCE units in South Africa.

Role of Researchers

Our role in this research was to collect data on the views of ECCE practitioners in mobile units about their understanding of play pedagogy and how they implement it to provide the foundation for education in young children in resource-scared areas. The study was conducted in rural communities in the Free State, South Africa, where two organisations operated fully functional mobile ECCE units. We are academics and researchers at the University of the Free State (UFS) and the University of South Africa who have been directly involved in children's education in South Africa for many years. We believe this research is necessary and valuable for broader childhood education practitioners, childhood education preservice and in-service teachers, and relevant education stakeholders. Consequently, the results of this study should be used as reference material, which is still limited, especially on the concept of mobile ECCE units.

Literature Review

The literature about mobile ECCE units, particularly in rural and resourced scarce settings, highlights the profound impact of these initiatives on children's holistic development. Research

consistently underlines ECCE's crucial role in establishing a foundation for lifelong learning and socio-economic well-being, linking access to high-quality early childhood programmes to enhanced cognitive abilities, social skills, and academic achievement (Ghosh, 2024). In the context of rural communities, where geographical isolation and limited resources often worsen disparities in access to quality education, mobile ECCE units have emerged as a promising solution to bridge these gaps (Ghosh, 2024). Through a synthesis of empirical evidence and theoretical frameworks, the literature provides a comprehensive understanding of mobile ECCE units in the South African context and play pedagogies in developing core skills in young children (Ghosh, 2024).

Mobile Early Childhood Care and Education Units

Mobile ECCE units provide flexible and accessible early learning opportunities for children in underserved areas. These services are provided within equipped vehicles with staff who deliver educational programmes, health check-ups and nutritional support directly to underprivileged communities (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2021). UNESCO addresses the barriers of geographic isolation and economic hardship to ensure children's holistic development and preparation for school (UNESCO, 2020).

The mobile ECCE units regularly involve parents and community members to foster a supportive and conducive learning environment that prioritises parental engagement in children's education (Selepe et al., 2024b). This innovative approach is crucial for reducing educational inequities and promoting early childhood development (United Nations International Children's Emergency Fund [UNICEF], 2022). The significance of the availability of relevant resources in ECCE cannot be overstated. Quality educational materials, trained practitioners and supportive ECCE environments are crucial for fostering early cognitive and social development in children. Adequate resources ensure that children receive quality education, which includes literacy, numeracy and emotional, cognitive, and physical development (UNICEF, 2022). Moreover, ECCE teaching resources yield long-term benefits by promoting school readiness and reducing future educational inequities (Selepe, Nhase et al., 2024)

Furthermore, the Department of Basic Education (2015) NCF emphasises the significance of employing high-quality materials in ECD to support children's holistic development. This entails offering books suitable for the children's age and hiring skilled and experienced professionals who can use these resources well and modify their teaching strategies to accommodate children's needs and interests (Ghosh, 2024). We explored the practitioners' perspectives on play pedagogy and how they implement it to improve children's overall development in mobile ECCE units.

Play Pedagogies

The strategy of play-based learning has gained momentum in ECCE because of its many benefits. Consequently, numerous definitions of play have emerged due to increased scholarly research. This resulted in much uncertainty among researchers, theorists, teachers and practitioners, particularly when attempting to conceptualise play, comprehend its function in the learning and development of young learners, and implement play as a practice within rural areas. According to Selepe (2021), play is a pedagogical practice teachers rely on to enhance social interaction skills. Parker et al. (2022) agree that play pedagogies require teachers to create rich social environments, interactive games and group activities. Palaiologou (2020) asserts that musical and digital play activities stimulate learners' skills to foster holistic child development. In other words, by integrating play into the learning process in ECCE, practitioners can create a rich, engaging and supportive environment that stimulates all aspects of a child's development. Hence, this paper examined practitioners' narratives to understand how play as a teaching-learning pedagogy in early childhood mobile units can enhance the general development of children in ECCE spaces.

Play-based Learning and Core Skills

Play is often defined as an intrinsically motivated, voluntary and enjoyable activity that promotes creativity, exploration, and learning in a non-threatening environment (Forbes, 2021). In the context of

playful pedagogy, the focus shifts to the deliberate integration of play into teaching practices to foster engagement, holistic development and active participation. Scholars like Vygotsky highlight the role of play in cognitive and socio-emotional development, emphasising its ability to scaffold learning and facilitate the zone of proximal development (Forbes, 2021). For this study, playful pedagogy is an approach that employs structured and unstructured play-based activities to create a meaningful, learner-centred educational experience. This definition emphasises the balance between child-led exploration and teacher-guided instruction, making it a dynamic tool for learning across diverse educational contexts (Forbes, 2021).

Play as a learning pedagogy is generally conceptualised as developing children's core skills. Accordingly, play can contribute to and support the development of core physical, emotional, social and cognitive skills of a child's being (Parker et al., 2022). For example, movement play develops children's fine and gross motor skills, while sensory play develops brain cells (Creekpaum, 2019). Significantly, different types of games accelerate the acquisition of social skills between children and adults (Garner, 2021), thus revealing that play-based learning encourages children to indulge in activities that help them relate to the world and the people they encounter. However, existing research pays little attention to supporting ECCE practitioners in effectively implementing play-based learning at ECCE mobile units. Since play-based teaching-learning has become popular at crèches, coordinating and arranging professional opportunities for practitioners to share and grasp modern trends in teaching ECCE children has become imperative. Hence, this paper contributes to the literature by investigating practitioners' understanding of play as a learning pedagogy in ECCE mobile units.

Incorporating Play-based Learning in ECCE

Literature was reviewed from different regions that used empirical methods; however, it was noted that little research was conducted concerning incorporating play as a learning pedagogy in mobile ECCE units. Although Selepe, Mofokenget al. (2024) explored the views and beliefs of practitioners regarding the use of play pedagogy in rural ECCE, their focus was not on ECCE mobile units. They used an interpretive qualitative case study approach by collecting data from six practitioners in Limpopo (South Africa) through semi-structured interviews, document analysis and non-participant observations. Their findings revealed that more resources were needed to improve early years' environments and effectively incorporate play pedagogies in rural ECCE settings. Therefore, this study is different because the focus is on mobile ECCE practitioners in the rural areas of the Free State.

Additionally, studies by Zama and Mashiya (2022) explored ECCE teachers' experiences integrating activities from the six early learning developmental areas of the NCF (Department of Basic Education, 2011). However, their study did not focus on play pedagogies but on NCF-related matters that guided practitioners in ECCE. Through purposive sampling, they selected six ECCE teachers from the three ECCE rural mobile units in the KwaZulu-Natal province. The data was collected through semi-structured interviews, personal records (lesson plans and theme books), and official planning documents (NCF) used by the participants (Zama & Mashiya, 2022). Their findings demonstrated the importance of collaboration among teachers to interpret the NCF, select relevant themes and identify activities that could be integrated into lessons. Zama and Mashiya (2022) recommend that there should be teamwork in ECCE to develop learners' core skills and school readiness.

The Development of Core Skills in ECCE

Play pedagogy, which emphasises learning through play, is recognised for its effectiveness in promoting the development of core skills in young children. This section of the literature review considered current research on how practitioners incorporate play pedagogy to foster cognitive, language, social, emotional and physical development in ECCE; for instance, when children engage in musical play, they develop mental and movement skills. The research by Alam and Mohanty (2023) confirms that children develop motor skills through musical play, while language development is enhanced through wordplay. According to Stenius et al. (2022), children use words to express their emotions while playing. They discover new ground through playful activities that facilitate interaction with the world around them, thus emphasising that children develop social skills as they explore their feelings, learn how to express

themselves, and share play experiences (Hamzah et al., 2023). Children learn to move (mobility), balance and lift objects during play. Lastly, Cheraghi et al. (2022) corroborate that physical play helps them develop the fundamental movement skills that contribute to fine and gross motor development.

Theoretical Framework

The study is underpinned by the theoretical lens of Vygotsky's sociocultural theory to understand mobile ECCE practitioners' views of play pedagogy and how they implement play pedagogy in their mobile units, considering the sociocultural context of the communities where mobile ECCE units are utilised. Sociocultural theory (SCT) explains how individual mental functioning relates to its cultural, historical, and institutional context (Shabani, 2016). It is informed by the notion that learning is a product of social interactions involving adults and peers (Vygotsky, 1978), in this case, the mobile ECCE practitioners and children. It attends to the broader social system in which learning occurs and draws on individual thinking and development interpretations based on participating in culturally organised activities (Stott, 2016). Within Vygotsky's SCT for this study, we used the following tenets: social interaction and zone of proximal development (ZPD).

Vargas-Hernández and Vargas-González (2022) highlight the importance of social interactions in play pedagogy, particularly the principle of ZPD; adding that individualistic play pedagogy limits the potential to exploit ZPD activities. Hence, Bredikyte and Hakkarainen (2023) emphasise the role of mutual interventions in adult-child play. Further, Panhwar et al. (2016) exemplify the significance of peer interaction in play by exploring the benefits of self-directed age-mixing in play, particularly within democratic school settings. Play processes are deeply rooted in sociocultural theories of learning, which highlight the significance of social interactions and cultural tools in cognitive development, particularly concerning children's ZPDs during play activities (Panhwar et al., 2016). In the context of this study, the interactions between ECCE practitioners and children regarding how learning materials are manipulated to enrich play activities that promote children's holistic development demonstrated the ZPD; that is, the space between what a learner can do without assistance and what a learner can do with adult guidance or in collaboration with more capable peers (Vygotsky, 1978).

When play pedagogy is viewed through sociocultural theory, it becomes a valuable tool for learning, particularly in a collaborative context (Karpushina et al., 2020). This collaborative nature of play mirrors Vygotsky's emphasis on learning as a social process (Souza Amorim et al., 2022), which engages children in interactive collaborations crucial for their cognitive growth and language development (Topçiu & Myftiu, 2015). Moreover, play provides a rich opportunity for developing symbolic and theatrical representation capacities, imagination, and creativity (Karpushina et al., 2020). However, the role of play in learning can be hindered by factors such as (among others) the lack of opportunities for social interaction, particularly for children from disadvantaged backgrounds (Souza Amorim et al., 2022).

In summary, social interactions play a critical role in the ZPD, particularly within the context of play pedagogy. Rooted in Vygotsky's sociocultural theory, the ZPD emphasises the space where children can achieve higher levels of understanding and skill development through guided interactions with more knowledgeable peers or adults. In play pedagogy, this manifests as collaborative activities that encourage children to engage in problem-solving, role-playing and exploration of new concepts within a supportive social framework. Through these interactions, practitioners scaffold learning by providing timely assistance and gradually withdrawing support as children gain independence. Play thus becomes a dynamic context for cognitive and social development, nurturing not only the acquisition of knowledge but also critical social skills such as cooperation, negotiation and empathy. This highlights the importance of structured yet flexible play environments where children can stretch their capabilities within their ZPD.

Methods

Overview of the Research Study

This article is drawn from extensive research conducted on mobile ECCE units in the Free State,

South Africa. However, for this specific article, we focus solely on practitioners' understanding of play and how they implement it in their mobile units to develop core skills and quality education in children. The research is funded by a non-governmental organisation, Hosken Consolidated Investments Foundation (HCIF), Cape Town, South Africa. The foundation hypothetically (HCIF, 2021) argues that children who attend mobile units where the eight indicators are functional would experience successful formal schooling. We are looking at indicator number four of the eight indicators for this article; delivery of transformative, high-quality and play-based early learning. See Figure 1.

Figure 1
Eight indicators for units of excellence (HCIF, 2021)
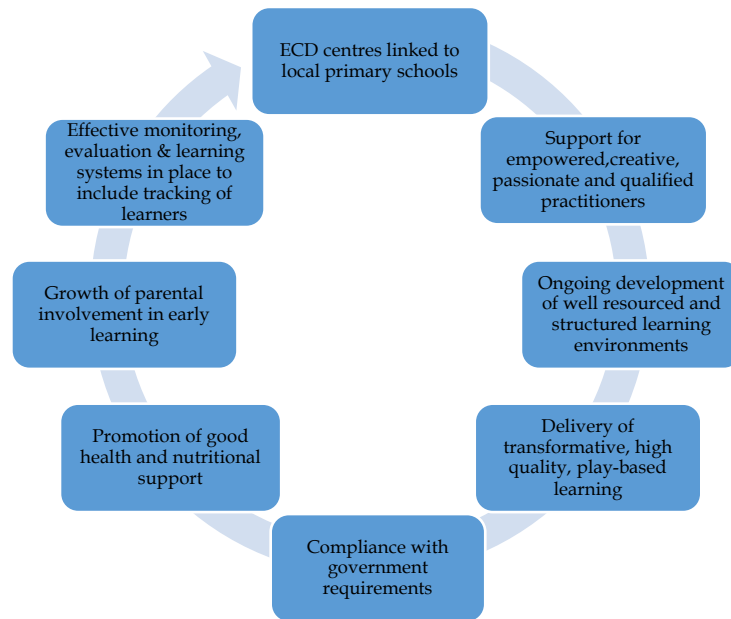
Research Design

Subsequently, the study's primary objective warranted that we adopt the qualitative research design to obtain data from 20 purposefully selected mobile ECE practitioners (Creswell & Creswell, 2018) from two organisations providing mobile ECCE services in the Free State, South Africa. Qualitative research is the methodical gathering, arranging, and analysing of textual data extracted from verbal communication or discussions (Tomaszewski et al., 2020). Qualitative investigations at the foundational level allow researchers to comprehensively understand individuals' lived experiences, behaviours, emotions and organisational functioning (Creswell & Creswell, 2018). For this reason, a qualitative research method was used; as researchers and academics who work with preservice childhood education teachers, we were interested in understanding mobile practitioners' understanding of play pedagogy and how they implement it (Alam, 2021). We used the interpretive paradigm as it is suitable for this study (Pewa & Mzimela, 2024). Aligned with this approach, we adopted the phenomenological research design because of the interest in understanding the subjective views of the participants on the objective under study (Neupane, 2024). Data was obtained by conducting semi-structured interviews following an interview guide subjected to thorough scrutiny to identify themes per the research question and objective.

Selection of Participants

This research included 20 ECCE practitioners from two mobile units in the Free State, South Africa. Identifying participants for this study was not challenging for us as researchers. As mentioned above, the study was drawn from the larger research project, and it focused only on the existing mobile ECCE units in the Free State that the HCIF supported. Campbell et al. (2020) maintain that participants' experiences should directly relate to the aim of the study, which in this case involved eliciting mobile ECCE

practitioners' experiences regarding their experience of working in mobile ECCE units and understanding the ECCE context. This enriched and strengthened the study's findings per the research objectives and questions.

Semi-Structured Interviews

Through the interpretive phenomenological approach, we engaged directly with mobile ECCE practitioners through semi-structured interviews to uncover the intricacies of their interactions and understanding of play pedagogy and how they implemented play pedagogy as a teaching strategy during their teaching. An audio recorder was used (with permission) to record participants' responses and increase the study's credibility and authenticity (Coleman, 2022); in addition to verbatim transcriptions from audio recordings, the interview transcripts were imported into Atlas.ti for analysis.

In arriving at the units, we physically introduced ourselves as a team, as we had initially communicated with practitioners through emails. The practitioners were ready and had planned how the interview sessions would take place with each of them. In this way, they accommodated everyone and simultaneously ensured that their teaching was not disrupted on the days of our visits. We visited the units four times to ensure all 20 practitioners were successfully interviewed. This prolonged engagement enhanced the credibility of the findings since interviews data were obtained only from the selected participants (Coleman, 2022). Each interview session was 30–45 minutes long. Some examples of questions were: What are the practitioners' understanding of play pedagogy? How do practitioners plan to implement play pedagogy in the physical spaces of mobile units? What resources do practitioners use when teaching during the implementation of play pedagogy? How do practitioners develop and implement play pedagogy to develop core skills and quality education in children? Thus, Our overall objective regarding this article was to understand practitioners' understanding of play pedagogy and how they implement it to develop core skills and quality education in children.

Measures of Trustworthiness

We achieved data credibility through peer debriefing (Creswell & Creswell, 2018). In addition, it was ensured that data from this study would be transferable. Stahl and King (2020) contend that to facilitate transferability; researchers should assume a position encouraging thick descriptions, adding that a transferability criterion remains a suggestion, and its applicability depends on the researcher's discretion. Also, the principle of data dependability, which addresses issues related to the consistency and repeatability of a particular study in other contexts and reaching the same or similar outcomes, was adhered to (Olmos-Vega et al., 2022). Notably, we have prioritised the achievement of trustworthiness by ensuring data confirmability. According to Sabnis and Wolgemuth (2024), confirmability relates to the extent to which the findings of qualitative research are purely informed by the participants' views, without any manipulation by the subjective ideas of the researchers. Confirmability was ensured by providing comprehensive methodological descriptions demonstrating how conclusions were reached and reported in this study.

Data Analysis

We organised the data by identifying similarities and differences to emerge with patterns before conducting the analysis. Although the most fruitful approach to answering the research questions was identifying themes and patterns during data gathering, transcribing, editing and coding, we had to be patient when looking for new codes. This led to comparing datasets regularly as we attempted to classify and label the data for explanation and clarity (Locke et al., 2022). The interview data was transcribed and coded using Atlas.ti software. The codes were created using the keywords from the research questions. Furthermore, we created and developed categories guided by Vygotsky's (1978) sociocultural theory, looking at social interactions and using the ZPD while implementing play pedagogy. We also identified connections, correlations, implications for theory and topics for future research to expand this study area. In addition, the analysis of qualitative data was conducted using Atlas. ti software at two levels: the method level and the process level (Creswell & Creswell, 2018). Figure 2 outlines the generic qualitative data

analysis method:

Figure 2
The generic qualitative data analysis method (Creswell & Creswell, 2018)
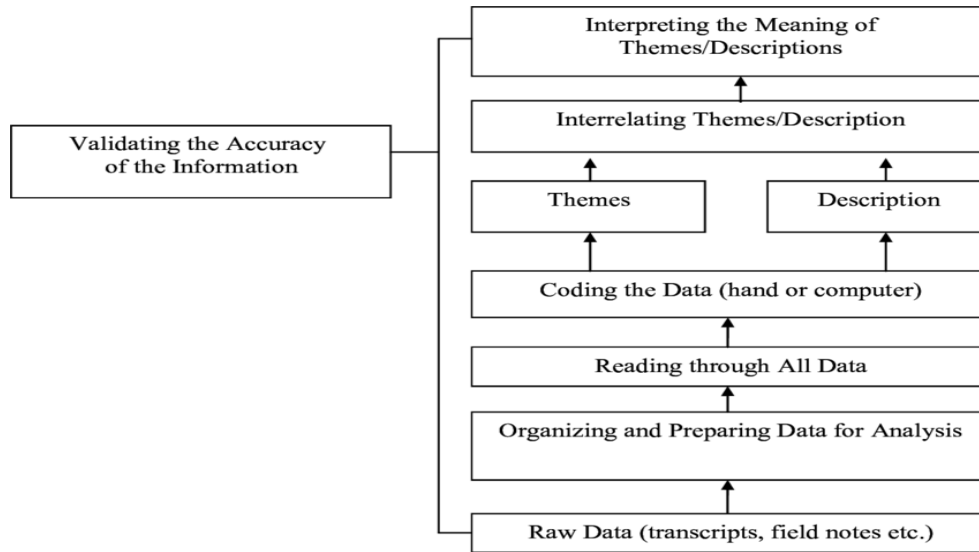

Figure 2 represents an iterative coding process to develop categories later formulated into several themes. Data analysis involved two phases of data coding. In the first phase, we coded data manually. Thus, the coding process undertaken in this analysis was built inductively from the raw data collected from 20 ECCE practitioners. In final co-coding, interview data was imported into the Atlas.ti software for further analysis. In this phase, an independent coder was employed to co-code the transcribed data, which enhanced the accuracy of the coding process and the credibility of the findings (Brethet et al., 2023). Reliability of the findings was achieved by reducing biases and pursuing transparency in the coding, co-coding and analysis processes. After concluding the analysis processes, several themes emerged. They are presented in the section on findings and interpretation, supported by verbatim responses (in excerpts) from the practitioners' information.

Ethical Considerations

The visiting arrangements were made beforehand and only after all ethical considerations were obtained. The ethical considerations included the HCIF organisation, the practitioners of the mobile units, and the UFS's ethical committee. The ethics certificate (UFS-HSD2022/0808/22) was issued by the General/Human Research Ethics Committee of the University of the Free State. After this approval, gatekeepers obtained permission through letters to the mobile ECCE management to enable us to talk to and interview the practitioners. In addition, informed consent was obtained from all 20 practitioners who participated in this study. After that, different interview sessions were conducted with the participants on their mobile settings. Participants' freedom and dignity were top priorities to protect the mobile units' reputations and avoid the impression of a conflict of interest; thus, pseudonyms were assigned to practitioners (1-20) and Organisation Units (Units A and B). We had to drive to the areas where the two mobile ECCE units were operating to observe the environment and surrounding areas.

Findings and Discussions

In line with the research objective of this study, four themes emerged: Theme one, understanding play-based pedagogy, was developed in response to research question 1. Theme two, maintaining a high level of transformative delivery; theme three, used as a high-quality learning pedagogy; and theme four, development of core skills, were developed under research question 2.

- What is the mobile early childhood care and education practitioners' understanding of play pedagogy?
- How do mobile early childhood care and education practitioners implement play pedagogy in their units?

Theme 1: Understanding Play-based Pedagogy

For this article, we aimed to understand the practitioners' views about their understanding of play pedagogy. The narratives below highlight the practitioners' understanding of play pedagogy.

> Play pedagogy is the learner-centred teaching method; we talk to the children, play with them and interact with them. Then we have the concepts area where children learn concentration, colours and sizes. Mathematics is also included. Then there is the art area where children learn to draw and paint (P14).

> For the children, the most important thing is playtime. Because my children are too young, they usually must play to have fun. They are learning because we use fingers, we use homemade instruments, so they learn (P1).

> OK, they also exercise to be healthy through playing. It is playing, it is exercising, it is also stretching (P2).

> We have outdoor equipment; children have wheels, hula-hoops, balls and Skittles. Those are the materials that we use for children to play (P4).

Practitioners' understanding of play pedagogy was evident during their interviews. They explained how they view the importance of play and its use during learning and developing learners' skills. The responses of practitioners provide evidence that they understood play-based pedagogy. For example, practitioners highlighted that play pedagogy is a learner-centred teaching method. In addition, they highlighted the kind of material they used to implement play pedagogy in their classrooms.

Theme 2: Maintaining a High Level of Transformative Delivery

The interview results demonstrated that mobile ECCE practitioners maintained high levels of transformative delivery through play-based pedagogies. Maintaining a high level of transformative delivery for this study highlights the incorporation of learner-centred methodologies and play pedagogies in mobile ECCE units. Again, this was evident in the type of resources the practitioners highlighted during the interviews and discussions with them. For example, the following practitioners highlighted that they had enough materials to use when teaching and using play pedagogy in their units.

> Yes, our instructional teaching materials are enough because we do not have many children in our unit. So, the instructional materials are enough (P18).

> Yes, the instructional materials are available, and they are enough. We have toys and other learning materials to support learning (P19).

> For outside play learning, we have the swim and other resources, outside Skittles, big walls, small balls, water play and sea play(P2).

Consequently, the UNICEF (2018) and the Department of Basic Education (2011) agree that teaching and learning in the ECCE should integrate child-centred activities into play-based pedagogies and resources that will promote and develop quality learning. The findings of this paper indicate that mobile ECCE practitioners understand the importance of high transformative play learning pedagogy. Furthermore, the findings indicate that practitioners maintained a high level of transformative delivery, which involved play-based early learning activities at their various mobile units to develop core skills. It further demonstrated that practitioners understood the importance of learner-centred play pedagogies. The literature from Leung (2023) corroborates that practitioners can develop learner-centred knowledge even in children's social interaction skills. This finding is also supported by the study's theoretical framework which highlights the value of social interactions in play pedagogy (Vargas-Hernández & Vargas-González, 2022). Hence, this study contends that to maintain a high level of transformative play pedagogy in mobile ECCE units, practitioners need to integrate learner-centred activities by employing play as a learning pedagogy to develop social interaction skills among children.

Theme 3: Used As a High-quality Learning Pedagogy

High-quality learning pedagogy refers to the utilisation of different types of play pedagogies. The Department of Basic Education (2011) agrees that delivering high-quality learning pedagogy employs play activities such as fantasy, word and physical play. This study revealed that practitioners used play-based strategies as a form of high-quality pedagogy. During the interviews, they described how they used play-based approaches in their mobile units, as enunciated below:

> We believe children develop, learn and thrive through play. It is important because children are acquiring skills through play. They learn through play because we teach them different themes through play-based activities. We also have fantasy corners for children where they indulge in fantasy play (P12).

> For example, the wordless books; we have books containing pictures. Very often you can pick up a discussion between children through them talking about the pictures. I think play is a very good way of encouraging a child to talk and to open up about what is worrying them (P10).

The narratives elicited from the practitioners demonstrated that play-based activities were integrated into language areas and mathematics. In this regard, P10 explained:

> Let me make an example of another song that I know; it's a Sotho song that says we have five apples in the tree. Then it says if one apple falls down, how many are left? Then they will say it's four. Then I ask again from four - how many are left if the other one falls? It's three. So, that is how they learn easily (P10).

The study also reveals that participants incorporate high-quality learning pedagogy in ECCE programmes at their mobile units. As such, they utilised different play pedagogies in languages, life skills and mathematics. This was evident when P10 mentioned the Sotho song she used to develop language, mathematics, vocabulary and numeracy skills. The literature from Stenius et al. (2022) corroborates that these kinds of songs assist children in developing language and emotional skills. In addition, Vygotsky agrees that different play activities develop different core skills needed in ECCE (Panhwar et al., 2016). Also, knowledge of the ZPD was evident from P10 who stated that play was effective in encouraging a child to talk and to open up about what was worrying them. The research by Selepe et al. (2024) confirms that during play, practitioners should apply ZPD principles to enhance children's social interaction skills. In support, the study's theoretical framework advocated the need for adult-child mutual interventions in play pedagogy as it promotes the ZPD (Bredikyte & Hakkarainen, 2023).

Theme 4: Development of Core Skills

Parker et al. (2022) assert that developing core skills such as physical, emotional, social and cognitive are fundamental in childhood education. For this paper, the practitioners preferred the play-based learning pedagogy because it assists children in developing core skills. Practitioners explained that children's cognitive, problem-solving, concentration, language and socialisation skills are developed through play-based activities. This was substantiated in the excerpts below:

> Through play, even their minds can be developed because when they play, they can see. let us say they play Seeing a Fantastic Day (P3).

> We also have a puzzle area where a child learns problem-solving and concentration. Then we have a book area or the library, where they learn quietness as they focus on books while they learn to read. So, we also have a construction area that is noisy, and there is also a block area where they learn to build structures, so those are the seven areas (P17).

> We learn through play. By learning through play and playing games, we develop language and social skills, and children will be able to socialise with other children. We develop sharing, to be able to share with others (P7).

This study's results revealed that practitioners employed high-quality play pedagogies to develop children's core skills in ECCE, including social, emotional, cognitive, and physical skills. In this regard, P7 explained that they use games to build core skills. Figure 3 depicts children playing a game that develops their core skills. The setting is a play-based and inquiry-based learning approach, where children interact and share ideas in a structured yet engaging environment. Here, the children are playing a tic-tac-toe classic game. For this game, children used paper and pencils to draw the grid and take turns placing their's and's until a winner emerged. This game assists learners in understanding the difference between b and d symbols.

Figure 3

Children playing various games that develop the core skills

Figure 3 depicts how games promote learning in young children when used as a learning pedagogy. Activities involving games promote, among others, life skills, understanding materials, adhering to rules and general well-being. Content knowledge is also acquired through pictures aligned to age-appropriateness. Lastly, the seating arrangement in learning spaces promotes interaction and communication between learners, enhancing creative-thinking and cognitive skills development.

Conclusion and Discussion

The narrative data analysis strategy that we used indicated that the views and experiences of mobile ECCE practitioners demonstrated a high level of delivering transformative, high-quality, play-based early learning activities at various mobile units to develop children's core skills. The findings indicate that ECCE practitioners use play as a learning pedagogy to deliver high-level transformative play activities to develop children's core skills. In addition, they demonstrated that they understand Vygotsky's (1978) sociocultural theory that advocates for integrating social interaction and the ZPD in play pedagogies. The study emphasises that ECCE practitioners need to use teacher-guided play pedagogies in ECCE to develop children's social, emotional, cognitive and physical skills. Moreover, this paper advises that practitioners must acquire the knowledge of legislative frameworks to guide them in successfully utilising play pedagogies in ECCE (Zama & Mashiya, 2022). Furthermore, the various stakeholders involved in operating the mobile units could use the study findings to provide the necessary support and assistance to the practitioners, for example, in terms of training, mentoring and resources in implementing the play pedagogy effectively in the mobile units. Lastly, further research should be conducted by using observations and document analysis to see how mobile ECCE practitioners implement play-based learning in their units. While this study offers valuable insights into the experiences of teachers in South Africa with mobile ECCE, the generalizability of the findings is limited. It is recommended that the study be replicated in other ECCE settings to explore how playful pedagogy can be implemented and to develop content that supports preservice teachers in applying play-based pedagogy in under-resourced areas.

Declarations

Authors' Declarations

Publisher's Declarations

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