

Implementation and Sustainability of Early Childhood Education Assessment Through Play-based Approach in Preschools: A Qualitative Study in Kgalagadi Public Preschools

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Abstract

This comprehensive study explored play-based assessment in Early Childhood Education (ECE) in selected preschools of Kgalagadi, covering its implementation, sustainability, and impact on child development. In ECE, assessment is vital, and play-based assessment, with its child-centered and holistic approach, provides valuable insights. However, research on its practical use, especially in developing nations like Botswana, is limited. Using a qualitative approach grounded in socio-cultural theory, data were gathered from 10 preschool teachers and 10 school heads through interviews, observations, and document analysis. Thematic analysis highlighted play-based assessment's effectiveness in promoting cognitive, social, emotional, and physical development in children. The study also revealed challenges hindering its integration, including resource constraints, time limitations, and inadequate training. Recommendations include increasing resources, improving professional development opportunities, and creating supportive environments for teachers. Policymakers are urged to prioritise resource allocation and robust professional development initiatives to ensure the smooth incorporation of play-based assessment into Early Childhood Education.

Keywords: Early Childhood Education, Play-based Assessment, Sustainability

Introduction

The history of early childhood education in Botswana reflects the country's commitment to quality education and holistic development for young children. The government has implemented policies and frameworks that recognise the importance of play-based assessment in early childhood education. The National ECE Curriculum Framework emphasises play-based assessment, encouraging teachers to incorporate play-based activities and monitor children's progress [1]. The National Early Development Learning Standards (ELDS) also highlight play-based assessment as a means to gather information about children's development. Botswana's focus on play-based assessment aligns with international perspectives on the value of play in children's development. However, there is a need for further research on the implementation and sustainability of play-based assessment, particularly in developing countries like Botswana. The study addresses this research gap by exploring the implementation and

challenges of play-based assessment in public preschools in the Kgalagadi region of Botswana, aiming to provide recommendations applicable beyond the study context.

Benefits of Play-based Assessment

Recent research has emphasised the benefits of play-based assessment in early childhood education (ECE) [1, 2]. Play-based assessment involves observing and documenting children's play activities to assess their development and learning. It has been found to effectively capture children's development and provide valuable information for teachers and parents [3, 4]. Play-based assessment is recognised for its accuracy in assessing literacy skills and its positive impact on social and emotional development [5, 6]. It improves teacher-child interactions, increases teacher confidence in assessing children's learning, and leads to gains in language and literacy skills [7, 8]. Play-based assessment aligns with children's natural inclination for play and

exploration, facilitating their active construction of knowledge and social skills [9, 10]. It offers valuable insights into children's learning processes, informs instructional practices and curriculum planning, and supports individualised interventions [11, 12]. Play-based assessment promotes meaningful engagement and holistic development, allowing children to explore, experiment, create, problem-solve, and develop social skills (Diamant-Cohen & Davis, 2019). The methods employed in play-based assessment include systematic observation, anecdotal notes, checklists, and conversations with children using open-ended questions [13]. This study aims to examine the engagement of teachers in play-based assessment in Kgalagadi public preschools.

Preschool Teachers' Beliefs and Values on the Implementation of Play-based Assessment

Preschool teachers hold strong beliefs and values regarding the implementation of play-based assessment in early childhood education. They recognise play as a natural and effective mechanism for children's holistic development across various domains [14]. Teachers highly value play-based assessment as it allows them to observe and understand each child's unique strengths, interests, and needs [15]. They appreciate the active engagement and motivation that play-based assessment fosters among children, as well as the authentic evidence it provides of children's skills and abilities [3, 16]. Preschool teachers consider play-based assessment as a comprehensive tool that encompasses children's interactions, creativity, problem-solving, and social skills [17]. They uphold the child-centered approach, empowering children to take the lead in their learning process and make choices [12]. Play-based assessment is also seen as valuable for formative assessment, informing instructional practices and individualised support [3]. Teachers recognise the importance of involving parents in their children's education and view play-based assessment as a means of communicating children's progress and engaging parents in meaningful conversations about their child's learning [18]. These beliefs and values are crucial for the effective implementation and integration of play-based assessment in early childhood education settings [19]. However, it appears that preschool teachers in Kgalagadi public preschools are not embracing play-based assessment in their teaching practices. Hence, the research aims to investigate the beliefs and values of preschool teachers regarding play-based assessment and explore the factors that hinder the implementation of play-based learning in Kgalagadi public preschools.

Challenges Affecting the Implementation of Play-based Assessment

Teacher beliefs and values as well as their level of training and support [20], are important factors influencing the successful implementation of play-based assessment in early childhood education (ECE) settings. Resource constraints, including limited time, materials, and professional development opportunities [21], along with changing educational policies and standardised testing requirements [22], pose sustainability challenges. Lack of teacher training and skills, inadequate resources, and cultural barriers also affect the implementation of play-based assessment [5]. Additionally, the absence of standardised play-based assessment tools hinders comparisons across programs [23]. Studies conducted in Tanzania have revealed similar challenges related to limited training, resources, and cultural barriers [24]. This

study aims to explore the challenges and interventions to promote the sustainability of play-based assessment in Kgalagadi public preschools.

Strategies and Interventions to Promote Sustainable Play-based Assessment

To promote sustainability and overcome challenges in implementing play-based assessment in early childhood education (ECE) programs, strategies such as ongoing professional development, resource allocation, family and community engagement, collaborative learning communities, and policy advocacy are crucial [26]. Ongoing professional development enhances teachers' competence and confidence in utilising play-based assessment methods [27]. Allocating adequate resources, including time, materials, and space, supports the implementation of play-based assessment. Engaging families and communities strengthen the home-school connection and promotes sustainability [25]. Collaborative learning communities facilitate knowledge exchange and access to resources. Advocacy efforts and policy initiatives raise awareness and promote the inclusion of play-based assessment in educational policies, ensuring long-term sustainability. Implementing these strategies supports assessment practices, holistic child development, and the effective use of play-based assessment in ECE settings.

Research Questions

The research questions center on understanding teachers' beliefs about the role of play-based assessment, uncovering challenges in implementation, and identifying strategies for effective and sustainable practices.

Purpose of the Study

The purpose of the study is to investigate the implementation and sustainability of play-based assessment in early childhood education (ECE) preschools. The research aims to assess the effectiveness of this approach in promoting children's development and learning outcomes, identify implementation challenges, and develop strategies to overcome them.

Significance of the Study

This study is highly significant in the field of Early Childhood Education (ECE) as it focuses on the implementation and sustainability of play-based assessment in preschools. The findings might contribute to enhancing children's development and learning outcomes by highlighting the benefits of integrating assessment into playful and engaging activities. The study emphasises the importance of adapting assessment methods to meet the unique needs of young children, promoting inclusivity and reducing bias. Moreover, by identifying challenges and providing strategies to overcome them, the research might inform evidence-based decision-making and improve ECE policies and practices. Ultimately, this study has the potential to shape educational approaches, support effective assessment methods, and enhance children's educational experiences and outcomes in the ECE settings.

Limitations and Delimitations of the Study

The study's limitations are attributed to various factors that could impact the scope and reliability of the findings. Limited resources, including time, budget, and access to participants, might constrain data collection and limit the diversity of the

sample. The reliability and validity of the assessment tools used are potential concerns, which could compromise the credibility and accuracy of the results. Geographically, the study's focus on the Kgalagadi Education Region restricts the generalisability of the conclusions to other contexts. Concentrating solely on four and a half to five-year-olds in the ECE reception program in public preschools might limit its applicability to younger or older age groups and different types of early childhood education settings. Cultural and contextual factors unique to the study's location may further limit the transferability of the results to other regions or countries.

Theoretical Framework

The theoretical framework which guided the study was socio-constructivism, which aligned with play-based learning and assessment principles [28]. Socio-constructivism emphasises the social and cultural context of learning, collaborative processes, and the role of play in children's cognitive, social, emotional, and physical growth [29]. It recognises play-based assessment as a means for authentic observations and interactions, providing valuable insights into children's development. The framework highlights the scaffolding and support provided by educators and peers in facilitating children's learning and development [30].

Methodology

This study employed a qualitative approach. Qualitative research is an approach that focuses on understanding social phenomena from participants' perspectives, emphasising context, meaning, and subjective experiences. A case study is a qualitative research method that involves a detailed investigation of a specific individual, group, event, or phenomenon within its real-life context [31,32]. The study employed a qualitative case study research design to explore the implementation and sustainability of play-based assessment in preschools in the Kgalagadi Region. This approach allowed for an in-depth exploration of the complexities, challenges, and successes associated with play-based assessment in early childhood education (ECE). The contextual understanding provided by case studies helped uncover unique factors and strategies related to play-based assessment in ECE settings [31].

Population and Sampling

The study population consisted of purposively selected preschool teachers and school heads. Purposive sampling, a non-probability sampling technique, was used to deliberately select participants based on specific characteristics or experiences relevant to the research objectives [32]. In this study, ten preschool teachers and ten school heads with relevant knowledge and expertise in play-based assessment were purposefully selected in the Kgalagadi region [30]. These qualitative research methods, including interviews, observations, and document analysis, were used to collect data. Thematic analysis was employed to analyse the collected data and identify key factors and strategies related to play-based assessment in ECE. The study aimed to contribute to theory development and provide practical insights for practitioners, policymakers, and stakeholders.

Results

The study focused on investigating the implementation and sustainability of play-based assessment in public preschools within

the Kgalagadi region. Semi-structured interviews were conducted, and the responses were thoroughly analysed and categorised into themes based on the research questions. The themes were presented in a narrative manner, aligning with the research questions that guided the study. In addition, data collected through observations and document analysis in early childhood education settings were also categorised according to the identified themes.

Research Question 1: Preschool Teachers' Beliefs and Values Regarding Play-based Assessment Holistic Development

Preschool teachers expressed a unanimous belief in the power of play-based assessment to support the holistic development of young children. They emphasised that play allows children to engage in diverse activities that promote cognitive, physical, social, emotional, and creative skills simultaneously.

This was Indicated by the Following Excerpts, Extracted from the Interviews

I truly believe that play-based assessment is the key to nurturing the overall development of children. Through play, they engage in various activities that stimulate their cognitive, physical, social, emotional, and creative skills simultaneously.

One Other Teacher Had this to Say

Play-based assessment allows us to address the multiple dimensions of a child's development. It provides a well-rounded approach to learning that supports their growth in different areas.

The responses from the semi structured interviews indicated that the majority of the participants were of the same view that play based assessment is key in the development of a holistic preschool child.

Individualised Learning

Teachers valued play-based assessment as an authentic and natural approach to gather information about children's learning and development. They highlighted that observations during play provide a more accurate and comprehensive understanding of children's abilities and progress compared to traditional standardised tests. One school head revealed that; I highly value play-based assessment for understanding children's learning and development. It offers comprehensive insights surpassing traditional tests, as it allows children to demonstrate knowledge and skills in real-life contexts. Play-based assessment aligns with their developmental needs, ensuring a holistic and accurate evaluation of their learning.

Authentic Assessment

Teachers valued play-based assessment as an authentic and natural approach to gather information about children's learning and development. They highlighted that observations during play provide a more accurate and comprehensive understanding of children's abilities and progress compared to traditional standardized tests. One school head revealed that; I highly value play-based assessment for understanding children's learning and development. It offers comprehensive insights surpassing traditional tests, as it allows children to demonstrate knowledge and skills in real-life contexts. Play-based assessment aligns with their developmental needs, ensuring a holistic and accurate eval-

uation of their learning. One preschool teacher also commented that; Play-based assessment is an authentic and natural approach to understand children's learning and development. It enables observation of their problem-solving, social interactions, and critical thinking during purposeful play activities. Unlike standardized tests, it captures the richness and complexity of their learning experiences, emphasizing creativity, collaboration, and resilience.

Child-centred Approach

Preschool teachers firmly believed in the child-centered nature of play-based assessment. They emphasized that play allows children to take an active role in their learning, fostering self-expression, problem-solving, and decision-making skills. Preschool teachers expressed a unanimous belief in the power of play-based assessment to support the holistic development of young children.

Research Question 2: Challenges in Implementing and Sustainable Play-based Assessment

Time Constraints

Teachers expressed that time constraints posed a significant challenge in implementing and sustaining play-based assessment. They noted that the demands of a packed curriculum and administrative responsibilities often limited the amount of time available for observation, documentation, and analysis during play. This was evidenced by two preschool teachers who said; With a packed curriculum and numerous administrative tasks, finding enough time for thorough observation, documentation, and analysis during play becomes a constant challenge. We often find ourselves rushing through the process or having to prioritize other responsibilities. (Teacher 1) Our curriculum is packed, and there are constant demands on our time. We need more flexibility in our schedule and support from the school administration to prioritise play-based assessment and allocate sufficient time for its implementation. (Teacher 2)

Assessment Validity and Reliability

Some teachers reported facing scepticism from parents, colleagues, or administrators regarding the validity and reliability of play-based assessment. They highlighted the importance of establishing credibility and demonstrating the effectiveness of play-based assessment methods to gain support and recognition. One preschool teacher revealed that; I have encountered scepticism from some parents and colleagues when it comes to play-based assessment. It can be challenging to convince them of its validity and reliability, especially when they are more accustomed to traditional assessment methods. On the same note, one school head had this to say; While play-based assessment may have its merits, I see it as a less reliable and valid method compared to traditional standardised tests. Observing children during play can be subjective, and it may not provide a standardised and consistent measure of their abilities. Therefore, I believe we should prioritise standardised tests to ensure a more standardised and objective evaluation of children's learning and development.

Assessment Documentation

Teachers identified assessment documentation as a challenge, noting that it required systematic record-keeping and analysis. They expressed the need for efficient and user-friendly systems

that facilitate the collection, organisation, and interpretation of assessment data gathered during play. One of the participants revealed that; The nature of play-based assessment requires systematic record-keeping and analysis to ensure accurate and meaningful documentation of children's progress. By investing in such tools and providing training and support to teachers, we can enhance our ability to effectively document and analyse assessment data, allowing us to make informed instructional decisions and track children's growth over time.

Limited Resources and Support

The study found that preschool teachers recognise the importance of play-based assessment for holistic development and individualised learning. They acknowledge the cognitive, physical, social, emotional, and creative benefits of play. However, challenges such as limited time, stakeholder scepticism, assessment documentation, and lack of resources and professional development were identified. Teachers called for policy changes, reduced reliance on standardised testing, and increased support for play-based assessment. School heads mostly agreed with teachers but one expressed scepticism, highlighting the need for ongoing dialogue and in-service training. Addressing these challenges and implementing suggested strategies can promote the integration and sustainability of play-based assessment, fostering child-centered education and personalised learning experiences.

Research Question 3: Strategies and Interventions to Promote Effective Implementation and Sustainability

Professional Development

Majority of teachers emphasised the need for comprehensive and ongoing professional development opportunities focused on play-based assessment strategies. They highlighted the importance of training in observation techniques, documentation methods, and effective communication of assessment findings to families. One teacher established that; Comprehensive and ongoing professional development in play-based assessment strategies is crucial. Training in observation techniques helps us gather valuable insights into children's learning during play, while documentation methods ensure accurate and meaningful record-keeping.

One teacher supported the above by saying; As educators, ongoing professional development in play-based assessment is vital for our practice. Documentation methods help us accurately capture their growth and development, while effective communication with families fosters trust and collaboration in supporting children's learning and holistic development. The sentiments below were shared by one participant and she said that; Training in observation techniques equips us with the skills to understand children's strengths and areas for growth during play, while effective documentation methods allow us to track their progress over time.

Collaborative Learning Communities and Parent Engagement

Teachers and school heads recognised the value of collaborative learning communities where they could share best practices, experiences, and resources related to play-based assessment. They emphasised the need for peer mentoring, collaboration, and the exchange of ideas to enhance assessment practices. The participants also emphasised the importance of involving parents in

the assessment process. They stressed the need for regular communication, workshops, and parent-teacher conferences to share assessment insights, explain the value of play-based assessment, and encourage parental involvement in supporting their child's learning at home.

Policy and Advocacy

Participants strongly believed that policy changes and advocacy efforts at both institutional and governmental levels were essential to support the integration and sustainability of play-based assessment. They emphasised the need to reduce reliance on standardised testing and shift towards a more holistic approach that values play and authentic assessment. Teachers called for increased allocation of resources for play-based assessment materials, including developmentally appropriate toys, games, and manipulatives. Furthermore, they stressed the importance of recognising play-based assessment as a valid and valuable form of evaluation, promoting its acceptance and adoption within the broader educational community. By advocating for these changes, teachers aimed to create an educational landscape that truly supports and embraces play-based assessment as an integral part of early childhood education.

Flexible Curriculum Design

Most preschool teachers emphasised the importance of flexible curriculum frameworks that allow for the integration of play-based assessment. They emphasised the need for curriculum design that prioritises child-initiated and open-ended play experiences while providing opportunities for intentional teaching and assessment within the play context. Regarding advocacy, one preschool teacher said; It is crucial to prioritise child-initiated and open-ended play experiences, as they foster creativity, problem-solving skills, and social interactions. By intertwining assessment with play, we create a rich and meaningful learning environment that supports children's individual interests and strengths while ensuring that their progress is monitored and celebrated.

These findings provide valuable insights into the beliefs, challenges, and strategies perceived by preschool teachers and school heads regarding the role and importance of play-based assessment in early childhood education. They inform the development of effective practices and interventions to support the implementation and sustainability of play-based assessment in early childhood education settings.

Discussion of Findings

Based on the study findings, it is evident that preschool teachers hold strong beliefs regarding the significance of play-based assessment in promoting holistic development and personalised learning experiences for young children. These findings align with existing literature on the benefits of play-based learning in early childhood education, which emphasises the importance of active, child-centered, and experiential approaches to facilitate optimal development. The present study's findings resonate with past research that has consistently highlighted the advantages of play-based assessment, including its ability to cater to individual learning styles, foster creativity and problem-solving skills, and support social-emotional development. The study's emphasis on

teachers' beliefs also reinforces the notion that educator attitudes play a crucial role in shaping the success of educational practices.

However, despite these positive beliefs, the study's identification of various challenges faced by preschool teachers in implementing play-based assessment reflects a common theme across educational research. Time constraints, scepticism from stakeholders, and limited resources have been documented as significant obstacles to incorporating innovative teaching methods, including play-based approaches, into early childhood education. The integration of play-based assessment within formal systems, as revealed in the document analysis, is an encouraging finding. It indicates a positive trend towards recognising the value of play-based learning within the institutional framework of early childhood education. Nevertheless, the study's identification of challenges stemming from conflicting policies underscores the need for greater coherence and alignment between educational policies and classroom practices.

The observations providing insights into the behaviors and skills assessed during play, as well as the role of teachers in facilitating play-based assessment, contribute valuable knowledge to the existing body of research. Understanding the specific aspects of development that teachers target during play allows for a more focused and purposeful assessment process. Moreover, recognising the teacher's role as a facilitator and observer during play highlights the significance of educator involvement in the assessment process. In terms of the study's objectives and research questions, the findings generally support the notion that preschool teachers value play-based assessment and recognise its potential for fostering comprehensive development and personalised learning experiences. However, the identified challenges suggest that further efforts are required to effectively integrate play-based assessment into early childhood education. Limitations of the study included the specific sample size and characteristics of the participating preschool teachers, which might restrict the generalisability of the findings to a broader population of educators. Additionally, the study's reliance on self-reported beliefs and experiences of teachers could introduce potential biases. On the other hand, the study's strengths lie in its qualitative nature, which allowed for in-depth exploration and understanding of teachers' perspectives and experiences with play-based assessment. The document analysis and observations provided rich data, facilitating a comprehensive understanding of the complexities and challenges surrounding play-based assessment in early childhood education.

Conclusion

The implications of this study are significant for the field of early childhood education. By recognising and addressing the challenges identified, policymakers, administrators, and educators can work collaboratively to create an environment that supports and promotes effective play-based assessment practices. Allocating resources for professional development, aligning policies, and advocating for the importance of play-based learning can enhance the implementation of this valuable assessment approach, benefiting young learners in their educational journey. In conclusion, this study contributes to educators understanding of the beliefs, challenges, and practices related to play-based assessment in early childhood education. By acknowledging the

alignment with existing research, discussing limitations, and emphasising implications, this study offers valuable insights for educators and policymakers seeking to enhance early childhood education practices. Moving forward, future research could build upon this study by exploring the long-term effects of play-based assessment on children's development and learning outcomes. Investigating how play-based assessment influences children's cognitive, social, emotional, and physical growth over time can provide a more comprehensive understanding of its impact.

Recommendations

Based on the findings of the study, several recommendations were made to promote the effective implementation and sustainability of play-based assessment in early childhood education. Firstly, there is a need for increased awareness and advocacy at institutional and governmental levels to recognise play-based assessment as a valid form of evaluation. This can involve policy changes that reduce reliance on standardised testing and provide support and recognition for play-based assessment practices. Secondly, resources should be allocated to provide preschool teachers with developmentally appropriate materials and tools for effective play-based assessment. Additionally, comprehensive and ongoing professional development opportunities should be provided to teachers, focusing on observation techniques, documentation methods, and effective communication of assessment findings to families. Furthermore, the development of user-friendly assessment documentation systems can assist in collecting, organising, and interpreting assessment data gathered during play. Lastly, collaboration between school heads, teachers, and other stakeholders is essential to establish a supportive and conducive environment that embraces play-based assessment. By implementing these recommendations, early childhood education can create an inclusive and child-centered approach that maximises the potential of play-based assessment for children's holistic development and personalised learning experiences.

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