Implementing a Family-Based Deep Learning Strategy to Address Learning Difficulties in Early Childhood Education

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Abstract: Learning difficulties in early childhood are a complex challenge that requires learning interventions that are not only pedagogically appropriate but also contextually appropriate to the child's developmental environment. One potential approach is a family-based deep learning strategy. This study aims to describe the application of a family-based deep learning strategy in reducing learning difficulties in early childhood. The study was conducted using a qualitative case study approach with 12 early childhood children at RA/BA/TA Taslim, Payakumbuh City. Data collection techniques included participant observation, in-depth interviews with parents and teachers, and documentation of children's digital assignments. Data were analyzed descriptively, emphasizing the learning processes and outcomes that emerge from the interaction between the child, family, and the learning environment. The results showed that active family involvement in the learning process encourages increased motivation, conceptual understanding, and awareness of children's learning in a more natural and meaningful way. This strategy also creates a fun and holistic learning atmosphere, as it integrates the home context with the child's developmental needs. In addition, this approach strengthens the emotional bond between children and parents, which is an important foundation for fostering independence and self-confidence in children.

1 INTRODUCTION

Learning difficulties in early childhood are a complex issue that continues to pose a challenge in education. Children at this age are experiencing rapid development, both cognitively, socially, emotionally, and motorically. However, not all children are able to optimally participate in the learning process. Many children show signs of learning unpreparedness, such as difficulty understanding instructions, lack of focus, slow absorption of information, or inability to express ideas verbally and non-verbally. Unfortunately, these various difficulties often go undetected early, resulting in poorly targeted and ineffective intervention strategies. (Brion-Meisels & Alter, 2018; Halimatussakdiah et al., n.d.; Rafikayati & Badiah, 2023; Susanto, 2021).

Initial observations at RA/BA/TA Taslim in Payakumbuh City revealed that at least 12 children were experiencing learning difficulties, both cognitively and socially-emotionally. This demonstrates that early childhood learning challenges are not merely individual issues, but rather systemic ones that require adaptive, participatory, and contextual learning strategies. (Abu-Rasheed et al., 2023; Darling-Hammond et al., 2020; Martin et al., 2020; Mirata et al., 2020; Pedaste et al., 2015). Efforts to address this challenge require attention to the characteristics of young children, who have unique needs in how they receive, process, and reflect on information. Early childhood children learn more through direct experience, a supportive social environment, and meaningful interactions with significant adults.

One relevant and highly potential approach in this context is the deep learning strategy. Deep learning

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emphasizes a meaningful, enjoyable, and conscious learning process, where children not only receive information but also actively engage through exploration, participation in real-life activities, and reflection on their experiences (Simanjuntak et al., 2024; Suryadi et al., 2023; Yulianti & Isgiarto, 2025). This approach focuses not only on cognitive achievement but also on developing children's affective and social aspects, which are crucial during early childhood development. Furthermore, immersive learning also strengthens the relationship between students and their learning environment, both at school and at home. (Brown et al., 2022; Skene et al., 2022; Vetter et al., 2022)

However, the effectiveness of in-depth learning strategies is not solely determined by the teacher's role, but also heavily dependent on family involvement. The family is a child's first and primary learning environment, so integrating learning strategies at school with parents' active role in supporting their children's learning is crucial. (Clarke, 2023). The concept of family-based learning encourages close collaboration between educators and parents in designing, implementing, and evaluating children's learning processes. (Mu et al., 2020; Putri et al., 2025). In this way, continuity is created between learning experiences at home and at school, which can ultimately strengthen the effectiveness of interventions for early childhood learning difficulties. (Salvatierra & Cabello, 2022).

Early childhood learning is naturally inseparable from play. Children learn through exploration, social interaction, and emotional stimulation that occur during play. Therefore, family involvement in the learning process is crucial because children need sufficient space and time to learn while playing with parents or other family members. Activities such as role-playing, reading stories, engaging in light discussions, or making crafts together not only enrich children's knowledge but also strengthen the emotional bond between them and their families. This emotional closeness plays a crucial role in building a sense of security, comfort, and confidence in children's interactions with their environment. When children feel emotionally and socially supported by their environment, especially their immediate family, they are better prepared to accept the learning stimuli from the school environment.

2 METHODOLOGY

This research uses a qualitative approach with a case study. This approach was chosen because it allows researchers to explore in-depth the process of implementing family-based immersive learning strategies in a real-life, specific context. The primary focus of the study is to observe and understand how collaboration between teachers and families can impact the learning development of early childhood students with learning difficulties..

The research subjects consisted of 12 children aged 4–6 years who were identified as having learning difficulties, both cognitive and socio-emotional, at an Early Childhood Education (PAUD) institution in Payakumbuh City. Subjects were selected purposively based on initial observations and recommendations from class teachers.

Data collection was conducted using three main techniques: (1) participant observation, which aimed to record the learning process and children's interactions during play-learning activities both at school and at home; (2) **semi-structured interviews** with teachers and parents to gain insight into the children's perceptions, involvement, and strategies applied in their learning; and (3) **documentation of digital assignments and children's work**, which was used as supporting data for assessing children's holistic development.

The data obtained were analyzed descriptively and qualitatively using data reduction, data presentation, and conclusion drawing. Data validity was strengthened through triangulation of techniques and sources, as well as member checking with relevant subjects. The analysis process was conducted simultaneously with data collection to capture the dynamics that developed during the implementation of learning strategies.

3 RESULTS AND DISCUSSION

The research results show that the implementation of a family-based immersive learning strategy has a positive impact on the learning engagement and development of young children with learning difficulties. Over the one-month implementation period, there was a consistent increase in active participation, understanding of basic concepts, and social-emotional skills.

Through classroom observations and documentation of home learning activities, it became apparent that children who had previously tended to be passive began to show interest in activities that involved exploration and direct interaction. Teachers noted a decrease in solitary behavior and an increase in two-way communication in the classroom.

Interviews with parents revealed that they felt more confident and focused in supporting their children's learning at home after being involved in lesson planning. Teachers stated that regular communication through diaries and digital groups helped align learning approaches at home and school.

Children who previously appeared withdrawn and lacking in self-confidence showed behavioral changes, becoming more open and cooperative. The emotional closeness built through family learning activities plays a crucial role in fostering a sense of security and comfort in children. Learning activities that combine elements of play and reflection have also been shown to stimulate children's thinking skills.

Overall, this family-based immersive learning strategy successfully created a holistic and supportive learning environment. Interventions involving families not only helped address children's learning difficulties but also strengthened the role of education as a shared responsibility between school and home.

4 CONCLUSIONS

This study demonstrates that family-based immersive learning strategies are effective in reducing learning difficulties in early childhood. Through collaboration between teachers and parents, children experience more meaningful, enjoyable, and mindful learning. Learning activities designed to integrate elements of play, exploration, and reflection have been shown to increase children's participation, conceptual understanding, and social-emotional development..
Active family involvement also strengthens emotional closeness, which is an important foundation for children's growing self-confidence in the school environment. By creating continuity between learning experiences at home and at school, family-based immersive learning strategies can be a relevant and sustainable intervention model.

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