

Analysis of the Teacher's Role in Digital Media-Based Learning Activities Through the Scaffolding Method in Early Childhood Education

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education.

INTRODUCTION

The rapid advancement of digital technology has reshaped the educational landscape, including early childhood education. In response to global developments,

Abstract

This study was motivated by the still low levels of literacy and numeracy achievement in Indonesia in the digital era, highlighting the need for teachers to implement innovative learning approaches that are appropriate for the characteristics of early childhood. One approach that can be applied is the digital media-based scaffolding method, which provides gradual assistance to help children learn and complete tasks independently. This study aims to analyze the teacher's role in implementing digital media-based scaffolding for early childhood education in kindergarten. The research employed a descriptive qualitative approach. The participants consisted of one teacher and Group A children aged 4–5 years. Data were gathered through observation, interviews, and documentation and analyzed using the interactive model of Miles, Huberman, and Saldana, which includes data reduction, data display, and conclusion drawing. The findings show that teachers perform essential roles as educators, facilitators, guides, and motivators in digital media-based learning activities. The most dominant role is that of a guide, as teachers provide gradual assistance through instructions, demonstrations, guiding questions, and direct support until children are able to complete tasks independently. The study concludes that the implementation of digital media-based scaffolding can support early childhood learning when accompanied by optimal teacher involvement. It is expected that the findings of this study will contribute to the development of more effective teaching practices that are aligned with the developmental needs of young children.

Keywords: teacher's role, scaffolding, digital media, early childhood

education is expected to strengthen the quality of human resources and prepare learners to meet future challenges (Fricticarani, 2023). Meanwhile, the UNESCO (2025) report shows that the quality of preschool educators in Indonesia remains relatively low, reaching only 12.19%, with a slight increase from 10.56% in 2024. This condition indicates that the quality of educational human resources is still a major challenge in early childhood education. In addition, Indonesian students' literacy and numeracy achievements remain at a lower-middle level compared to those of several other developing countries. This suggests that improvements in the quality of learning have not been significant, despite various efforts such as curriculum development and educational digitalization. These challenges are not only related to the availability of technology but also to the effectiveness of implementing technology-based learning in educational institutions.

One of the educational levels most affected by these changes is early childhood education. At this stage, children are building the basic foundation for character formation and developing cognitive, social-emotional, language, and fundamental skills (Fitriani, 2025). Preschool education can therefore be considered the first environment where children learn to socialize and prepare for the next level of education. In addition, children aged 0–6 years are in the *golden age* period, during which learning stimulation greatly influences their overall development (Rahma, 2025).

Furthermore, Tabun (2025) explains that appropriate stimulation during early childhood significantly affects children's readiness for the next stage of education. According to Kuku et al. (2025), early childhood has unique characteristics and cannot be equated with adults because children are still undergoing active growth and development. Therefore, the quality of learning experiences provided during this stage serves as an important foundation for their future development. This condition requires teachers to possess broad knowledge and the ability to provide gradual learning support that is tailored to each child's needs and abilities. because of this teachers play an essential role in facilitating the growth and holistic development of young children

As time progresses children have become increasingly familiar with the use of gadgets, enabling teachers to utilize digital media as a more effective and engaging learning tool (Purba et al., 2026). Various forms of digital media, Including web-based platforms, infographics, social media, as well as digital video and audio formats can be integrated into learning activities according to instructional needs, as each medium serves a different function in delivering educational content (Tahmida et al., 2022).

However, the inappropriate use of digital media may have negative effects on children's development. Exposure to unsuitable content and excessive use of electronic devices can affect children's social and emotional development (Radita et al., 2023). Therefore, the use of digital media should be accompanied by close supervision from both parents and educators. Such supervision aims to prevent excessive use while ensuring that children continue to have opportunities for direct social interaction. Maintaining a balance between digital learning and real-life interaction is essential for supporting the holistic development of young children (Pawitri, 2025).

Early childhood education should be implemented optimally by considering appropriate strategies, methods, learning media, and the teacher's role in managing the learning process in a comprehensive, systematic, and sustainable manner (Harmoko et al., 2026). Since learning activities play a crucial role in children's development, teachers need to employ engaging and interactive teaching methods. One approach that can support digital media-based learning is the scaffolding method. This approach is

particularly suitable for young children, who still require guidance throughout the learning process. This is consistent with Lev Vygotsky's theory, as cited by Mutiah (2010), which states that children's development occurs through social interaction and the provision of gradual assistance (*scaffolding*). Through scaffolding, teachers can support children in learning step by step according to their abilities and help them achieve higher levels of understanding.

According to Purwasih (2021), referring to Anghileri (2006), scaffolding can be provided through three levels. The first level is direct interactions, in which teachers provide explanations, reviews, and assistance to help children correct or reconstruct their understanding. The highest level is developing conceptual thinking, where teachers encourage children to gain a deeper understanding of concepts so that they can think more independently and become less dependent on teacher support.

In digital media-based learning, scaffolding can be implemented through various forms of teacher guidance, such as giving instructions while children use educational applications, helping them understand educational videos, asking guiding questions, and connecting information obtained from digital media with children's real-life experiences. Najibah et al. (2026) state that digital media can support all aspects of children's development by serving as an effective learning tool. Therefore, digital media functions not only as a source of entertainment but also as an instructional aid that supports children's overall development.

Meanwhile, a study by Ollonen and Kangas (2024) found that teachers play an important role in supporting the use of digital media in preschool education through a motivational scaffolding approach by providing gradual guidance. Their study involved children aged 5–7 years. However, in the Indonesian educational context, children aged seven generally have entered primary school or are in the transition period to formal schooling. Therefore, the present study focuses on children aged 4–5 years to provide a clearer understanding of the developmental characteristics of early childhood.

Based on these considerations, this study examines the teacher's role in implementing scaffolding in early childhood education through the use of digital media as the primary learning tool, thereby providing a new perspective and extending previous research in this area. Therefore, this study is expected to offer a clearer understanding of the importance of the teacher's role in creating effective learning experiences in the digital era through the optimal implementation of digital media-based scaffolding for young children.

METHODS

This research adopted a descriptive qualitative design to explore how teachers implement digital media-based scaffolding in early childhood education settings. A qualitative approach was used because it allows the investigation of phenomena as they naturally occur through participants' experiences and interactions (Moleong, 2017; Creswell, 2016). The study was conducted in a kindergarten in Subang Regency, West Java, Indonesia. The participants consisted of one teacher and Group A children aged 4–5 years who were involved in digital media-based learning activities.

Data were collected through observation, semi-structured interviews, and documentation. According to Sugiyono (2010), observation is a data collection technique that involves directly observing conditions and events in the research setting. In this study, observation was used to examine the teacher's role in providing gradual assistance and to identify children's responses during the learning process. Interviews were

conducted with the teacher to gather information about the planning, implementation, and challenges of applying digital media-based scaffolding. Documentation, including photographs of learning activities and instructional documents, was used to support and strengthen the research findings. This research uses observation, interview and documentation instruments.

Data analysis was conducted using the interactive model developed by Miles, Huberman, and Saldana (2014), which includes data collection, data reduction, data display, and conclusion drawing. The data obtained from observations, interviews, and documentation were analyzed continuously to identify patterns and meanings related to the teacher's role in implementing digital media-based scaffolding. To ensure the trustworthiness of the findings, source triangulation and technique triangulation were employed.

RESULTS AND DISCUSSION

Results

Based on the observations and interviews, it was found that teachers play a crucial role in implementing digital media-based scaffolding for early childhood education. These roles include serving as facilitators, educators, guides, and motivators. All four roles are interconnected and are carried out simultaneously throughout the learning process.

As facilitators, teachers prepare various digital media and technological devices, including educational videos, digital educational games, laptops, projectors, and speakers. The selection of these media is adjusted to the learning objectives, classroom themes, and children's developmental characteristics to ensure that the materials are engaging and effective in supporting learning. The observational findings indicate that the use of digital media enhances children's enthusiasm and participation, particularly when they watch educational videos and engage in digital games.

In addition to their role as facilitators, teachers also act as educators by introducing learning materials before children interact with digital media. Teachers explain basic concepts using simple and age-appropriate language while relating the content to children's daily experiences. Digital media are then used to reinforce children's initial understanding, followed by discussion and question-and-answer activities. Through these activities, children are encouraged to express their opinions, answer questions, and connect the learning materials with their own experiences. At the end of each session, teachers conduct simple evaluations to assess children's understanding of the topics that have been learned.

The findings further reveal that the teacher's role as a guide is the most dominant aspect of digital media-based scaffolding. Teachers actively provide assistance when children encounter difficulties in understanding the learning materials or using digital media. This support is delivered gradually and tailored to each child's individual needs and abilities. Guidance is provided through simple instructions, demonstrations, and prompting questions that encourage children to think critically and discover answers independently. Interview findings indicate that the support given is flexible; children who have understood the tasks are encouraged to work independently, while those who experience difficulties receive more intensive assistance. Teachers also provide special attention to less active children by offering personal guidance and repeated explanations to encourage their participation in learning activities.

Another important finding is that the assistance provided by teachers is gradually reduced as children's competence increases. Once children are able to complete tasks independently, teachers limit their support to supervision and encouragement. This pattern demonstrates that scaffolding is implemented progressively in accordance with children's developmental needs and learning progress.

Furthermore, teachers also serve as motivators by providing positive reinforcement throughout the learning process. Motivation is expressed through praise, verbal encouragement, and appreciation of children's efforts and achievements. Interview findings suggest that such reinforcement helps children feel happy, increases their self-confidence, and encourages them to complete tasks independently. In addition, teachers strive to create a learning environment that is comfortable, safe, and enjoyable, enabling children to participate actively without hesitation.

Overall, the findings indicate that the successful implementation of digital media-based scaffolding depends not only on the use of technology but also on teachers' ability to perform multiple roles as facilitators, educators, guides, and motivators. Among these roles, the guiding role emerges as the most prominent, as teachers continuously provide gradual assistance, direction, and support that are adapted to each child's individual needs and developmental level until they are able to learn more independently.

Discussion

Based on the research findings teachers play a crucial role in implementing digital media-based scaffolding in early childhood education. In practice, teachers not only deliver learning materials but also provide gradual assistance, prepare appropriate learning media, maintain a conducive classroom environment, and motivate children to become more active and confident in the learning process. According to Andini et al. (2024), successful learning is achieved when the classroom environment is conducive and teachers provide appropriate guidance to children.

Teachers support children throughout the entire learning process, from planning and implementation to evaluation of digital media-based learning activities. These findings are consistent with Purwasih (2021), referring to Anghileri (2006), who states that scaffolding can be implemented through several levels, including providing a supportive learning environment (*environmental provisions*) and engaging in direct interactions between teachers and children (*direct interactions*). Therefore, scaffolding is not limited to assisting children when they encounter difficulties but also involves creating a learning environment that supports their overall development. This finding is also in line with Damanik et al. (2025), who explain that scaffolding should be adjusted to children's developmental levels and provided gradually. In addition, Tiwow et al. (2025) emphasize that feedback on digital learning media should be integrated throughout the learning process to ensure that learning objectives are achieved.

The findings of this study indicate that teachers play multiple roles in the implementation of digital media-based scaffolding, including as educators, guides, facilitators, and motivators. These findings are supported by Wulandari et al. (2023), who state that teachers have the responsibility to serve as educators, guides, facilitators, and motivators throughout the learning process.

The findings of this study indicate that teachers act as educators by delivering learning materials, explaining the objectives of learning activities, introducing the use of digital media, and conducting simple evaluations after the learning process. Before children use digital media, teachers first introduce the learning content through educational videos. This finding is consistent with Endrawati (2024), who states that

digital media can help children understand learning concepts while also enabling teachers to assess their prior knowledge through the stages of planning, implementation, and evaluation. Similarly, Kartika and Arifudin (2023) argue that teachers, as educators, are responsible for planning, implementing, and evaluating learning activities to achieve optimal child development outcomes.

In addition teachers encourage children to discuss various daily activities related to the use of water, making it easier for them to understand the learning materials. This activity demonstrates that the learning process is not limited to the delivery of information but also helps children construct understanding based on their own experiences. This finding is in line with the constructivist theory described by Mutiah (2010), which explains that knowledge is built through experience and interaction with the environment. Therefore, teachers do not merely act as providers of information but also as educators who help children construct new knowledge through meaningful learning experiences.

The findings of this study indicate that teachers provide guidance through the scaffolding method by demonstrating how to use digital media, giving simple instructions, asking guiding questions, and offering verbal assistance when children encounter difficulties. This finding is consistent with Ardania et al. (2024), who explain that children's learning process becomes more effective when they receive gradual guidance and support. In this study, teachers did not directly provide answers but encouraged children to discover solutions independently through questions such as *"Which one uses water?"* or *"Can you look at the picture again?"* This strategy demonstrates the teacher's effort to develop children's thinking skills through step-by-step guidance. Similarly, Dinnillah et al. (2025) emphasize that teachers play an important role in creating learning situations that encourage children to ask questions, engage in discussions, and face various learning challenges.

On the other hand, when children experienced difficulties or were reluctant to participate in learning activities, the teacher's role as a guide became particularly important. Teachers provided support by inviting children to discuss their difficulties, identifying the causes of their challenges, and offering assistance and direction based on each child's needs. This finding is in line with Vygotsky's scaffolding theory, as cited by Lawal et al. (2026), which states that children can achieve higher levels of competence through support from a More Knowledgeable Other (MKO). In this study, the teacher acted as the MKO by providing gradual assistance until children were able to complete tasks independently.

Furthermore Umayyah et al. (2026) explain that learning within the Zone of Proximal Development (ZPD) becomes more effective when activities are closely related to children's daily lives. In such situations, teachers can provide scaffolding that matches each child's developmental stage and learning needs. Therefore, the teacher's role as a guide is essential in digital media-based learning, as young children still require direction, assistance, and support to understand learning materials and use digital media appropriately.

The findings of this study indicate that teachers act as facilitators by preparing various learning media, such as educational videos, digital educational games, laptops, projectors, and speakers, to support children's learning activities. This finding is consistent with Fauzi et al. (2022), who explain that teachers serve as facilitators by providing and developing learning media that support children's learning processes. Similarly, Putri et al. (2025) state that teachers, as facilitators, prepare digital media and

learning equipment, ensure that all resources are ready for use, and explain the learning objectives and materials before the activities begin.

The learning media are selected according to the learning theme and the characteristics of the children in the classroom, thereby creating a learning environment that supports early childhood development. The use of digital media also provides more interactive learning experiences, making the learning materials easier for children to understand. This finding is in line with Farina (2024), who argues that digital media enable children to actively participate in learning through activities such as watching educational videos and playing educational games related to the lesson content. It is also supported by Kuntari (2023), who states that the use of videos, animations, and educational applications can make learning more varied and engaging.

The results of this study demonstrate that digital media do not replace the teacher's role in the learning process but instead function as tools that support scaffolding. This finding is consistent with Resti et al. (2024), who explain that digital media serve as a means of helping teachers provide guidance and learning experiences that meet children's needs. Therefore, teachers' ability to select and effectively utilize appropriate digital media is an important factor in the success of early childhood learning.

The findings of this study indicate that teachers act as motivators by providing simple praise, such as *"Good job"* and *"Come on, try again,"* as well as encouraging children when they experience difficulties. This finding is consistent with Khoir et al. (2024), who explain that teachers have the responsibility to motivate children to become more active and confident in achieving learning objectives.

Providing motivation and positive reinforcement was found to help improve children's self-confidence and enthusiasm for learning. According to Masyitoh et al. (2024), teacher support helps children feel appreciated and encourages them to be more willing to complete assigned tasks. In addition, the motivation provided by teachers creates a comfortable learning atmosphere, enabling children to participate more actively in learning activities. This finding is in line with Mulyasa (2013), who states that teachers, as motivators, play an important role in fostering children's enthusiasm for learning through positive encouragement and by creating a supportive learning environment.

The findings of this study are similar to those of Purtadi et al. (2023), who found that teacher support and motivation can increase children's engagement in the learning process. However, while their study focused on inquiry-based learning, the present study highlights the implementation of digital media-based scaffolding in early childhood education. Therefore, the results of this study strengthen previous findings by demonstrating that teacher motivation is an important factor in enhancing children's participation and engagement in learning activities.

Based on these four findings, it can be concluded that the teacher's roles as an educator, guide, facilitator, and motivator are closely interconnected in the implementation of digital media-based scaffolding. Although most children showed positive development during the learning process, some were not yet able to participate optimally. This condition serves as an important point of reflection for teachers to review and improve the learning strategies being implemented. According to Sagala et al. (2026), children's learning outcomes may be less than optimal when instructional strategies are not applied consistently, are not aligned with children's needs, or do not provide sufficient opportunities for active practice.

Among these roles, the role of the teacher as a guide emerged as the most dominant because it aligns with the fundamental principles of scaffolding, which emphasize the provision of gradual assistance according to children's needs. Nevertheless, the roles of the teacher as an educator, facilitator, and motivator also make significant contributions to the success of the learning process.

CONCLUSION

The teacher's role in digital media-based learning activities through the scaffolding method at TK Puspita Indah includes functioning as a facilitator, educator, guide, and motivator. As a facilitator, the teacher prepares digital learning media; as an educator, the teacher delivers learning materials and explains the learning objectives; as a guide, the teacher provides gradual assistance according to children's needs; and as a motivator, the teacher offers encouragement and positive reinforcement to build children's confidence in learning.

Among these roles, the teacher's role as a guide emerged as the most dominant. This is reflected in the provision of gradual support through demonstrations, instructions, guiding questions, and direct assistance when children encounter difficulties. The support is then gradually reduced until children are able to complete tasks independently. This process represents the core principle of the scaffolding method in early childhood education.

Nevertheless, these four roles are closely interconnected and cannot be separated from one another. The successful implementation of digital media-based scaffolding depends on the balanced performance of teachers as facilitators, educators, guides, and motivators, enabling the learning process to be effective and responsive to the developmental needs of young children.

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