

The Use of Visual Media in Early Literacy Learning in Kindergarten

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Abstract:

Early childhood education plays a crucial role in laying the foundation for literacy, which underpins academic success in later stages. Early literacy encompasses not only reading and writing skills but also the ability to comprehend meaning, recognize symbols, and communicate effectively. However, literacy learning practices in kindergarten continue to face challenges, particularly regarding the underutilization of visual media, which is inherently more aligned with the cognitive characteristics of young children who think concretely and iconically. This study aims to describe the forms of visual media usage in early literacy learning, analyze its contribution to enhancing children's literacy skills, and identify the supporting and inhibiting factors in its implementation. Employing a qualitative case study approach, data were collected through observations, interviews, and documentation involving teachers, children, principals, and parents in selected kindergarten institutions. Data analysis was conducted thematically using triangulation techniques to ensure validity. The findings reveal that visual media such as flashcards, picture storybooks, animated videos, and interactive teaching aids enhance learning motivation, strengthen memory retention, and facilitate children's comprehension of literacy concepts. Furthermore, teacher creativity and parental support emerged as key success factors, while limited resources and pedagogical competencies posed major challenges. This study contributes to strengthening the theoretical framework of visual literacy in early childhood education and provides practical implications for teachers, institutions, and policymakers to systematically integrate visual media into the early childhood curriculum.

Keywords:

Visual Media, Early Literacy, Early Childhood Education (ECE), Kindergarten



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INTRODUCTION

Early childhood education (ECE) is the main foundation in building the quality of human resources from an early age because during this period, children are in a very rapid development phase, both cognitively, affectively, and psychomotor. One important aspect that needs to be stimulated from an early age is literacy, which is not only limited to reading and writing skills, but also includes the ability to speak, recognize symbols, understand meaning, and express themselves orally and in writing. Various studies confirm that early literacy has a significant influence on children's success in formal education and subsequent social life (Gutiérrez-Fresneda et al., 2026; Yeatman et al., 2024). In a global context, the need to strengthen early literacy is even more urgent as the challenges of the digital era demand a generation that is not only literate but also has visual and media literacy skills to understand information that is increasingly based on images, symbols, and multimedia (Gordon et al., 2025).

Although the urgency of early literacy is widely recognized, learning practices in many ECD institutions, especially in developing countries, still face serious challenges. One of the main gaps is the suboptimal utilization of visual media as a tool for early literacy learning. In fact, early childhood tends to understand abstract concepts more easily through visual media than with verbal explanations (Lopatovska et al., 2016; Adil, 2022). Teachers' limited skills in designing media, lack of school facilities, and variations in parental support are often inhibiting factors. This condition shows the gap between the great potential of visual media in early literacy learning and the real practice in the field that has not been maximized (Kumar et al., 2026; Pennington et al., 2024; Chen et al., 2025).

Conceptually, visual literacy is a skill that enables individuals to understand, interpret, and communicate meaning through visual representations. In the context of early childhood learning, visual literacy is closely related to cognitive development theory, which emphasizes that pre-operational children learn more through concrete and iconic experiences (Lopatovska et al., 2016; Różewski et al., 2021). Visual media, such as word cards, pictures, short videos, and interactive props, play an important role in bridging children's understanding from concrete symbols to abstract representations (Hunze et al., 2025). Furthermore, recent studies have shown that the integration of visual literacy with STEAM-based education can improve children's creativity, critical thinking, and communication skills from an early age (Dominguez Romero & Bobkina, 2026; Cinkara et al., 2025).

Based on this framework, this research is directed at answering three main questions: (1) how visual media is used in early literacy learning in kindergarten; (2) to what extent visual media can improve early childhood literacy skills; and (3) what are the supporting and inhibiting factors in using visual media in kindergarten classrooms. These research questions are aligned with the main objectives of the study, which are to describe the forms of visual media use, assess its contribution to improving children's literacy, and identify factors that influence the effectiveness of its application in early childhood institutions. Thus, this research is not only descriptive but also analytical in looking at the dynamics of visual-based learning practices in the field.

This article is expected to make a scholarly contribution by highlighting the novelty of visual media integration in the context of early literacy learning in kindergarten. First, it offers a more in-depth understanding of the factual practice of visual media use in the classroom, which has been widely reported conceptually but rarely researched qualitatively based on case studies (Cinkara et al., 2025). Secondly, this article attempts to bridge visual literacy theory with the social reality of early childhood education, especially in Indonesia, so as to enrich the international literature, the majority of which still focuses on the context of developed countries (Schwartz, 2018). Finally, the novelty of this research lies in the exploration of supporting and inhibiting factors specific to the kindergarten context, which can inform the development of more effective and contextualized visual media-based literacy learning strategies (Shi Chen et al., 2025; Zou et al., 2024; Vokatis et al., 2026; Ye & Xu, 2026).

METHOD

This research uses a qualitative approach with a case study strategy because the main objective of the research is to describe and analyze in depth the practice of using visual media in early literacy learning in kindergarten. The case study was chosen so that the researcher could understand the complex context and explore the experiences of teachers, students, principals, and parents in utilizing visual media in the classroom. Qualitative methods are appropriate for answering research questions that focus on process, meaning, and participants' experiences rather than measuring quantitative variables (Yin, 2018). The research data consisted of primary data in the form of classroom observations, in-depth interviews with teachers, principals, and parents, as well as documentation of learning activities (photos, videos, children's worksheets), and secondary data in the form of curriculum documents, lesson plans, and academic literature on early literacy and learning media. Data collection techniques were conducted through participatory observation, semi-structured interviews, and documentation studies, allowing triangulation between data sources. The main instruments were observation guidelines, interview guidelines, and documentation checklists, while the researcher acted as the key instrument in interpreting the data (Tracy, 2020).

The inclusion criteria in this study included kindergarten teachers who had experience in teaching literacy with visual media, principals who provided policies related to the use of learning media, and parents whose children were involved in the observation activities. The young children who were the subjects of observation were selected based on their parents' willingness and their active involvement in classroom activities. Exclusion criteria included teachers or institutions that were not willing to provide access to data and children who did not have parental permission to be observed. The unit of analysis was early literacy learning practices using visual media in kindergarten classrooms, analyzed from the perspectives of teachers, children, principals, and parents. Data analysis was conducted using thematic analysis techniques through the stages of data reduction, data presentation, and conclusion drawing, and verified through triangulation between sources and methods (Castleberry & Nolen, 2018). To support data validity, researchers used member checking, audit trail, and peer debriefing techniques. The use of qualitative case study methodology has proven relevant in literacy and early childhood education research as it provides a rich contextual understanding of learning practices (Mertala, 2020; Flear, 2021; Kumpulainen & Gillen, 2019; McLachlan et al., 2023; Britto et al., 2021; Marsh et al., 2018).

RESULT AND DISCUSSION

Results

The results of this study yielded several important findings derived from the analysis of classroom observations, in-depth interviews, and supporting documentation. These findings illustrate how visual media were implemented in early literacy learning activities in kindergarten and how teachers, students, principals, and parents perceived their effectiveness in supporting children's literacy development. Furthermore, the data revealed various forms of visual media used during learning, the responses of children toward visual-based activities, as well as several supporting and inhibiting factors influencing the implementation process. The triangulation of data sources strengthened the validity of the findings and provided a comprehensive understanding of the

dynamics of visual media utilization in early childhood literacy learning contexts.

Table 1. The results of Early Literacy Learning Process

Key Aspect	Main Findings	Supporting Evidence
Forms of Visual Media Use in Early Literacy Activities	Teachers employ various visual media such as word cards, illustrative pictures, picture storybooks, flannel boards, letter puzzles, and short interactive videos. • <i>Word cards & illustrative pictures</i> are used for introducing letters and basic vocabulary. • <i>Picture storybooks</i> help enhance story comprehension. • <i>Flannel boards & letter puzzles</i> foster collaborative and participatory learning.	Classroom observations show that word cards and illustrative pictures are the most frequently used.
Contribution of Visual Media to Children's Literacy Skills	• Children's ability to recognize letters, mention simple words, and comprehend stories increases. • Visual media raise engagement and attention during lessons. • Parents reported children were more enthusiastic about retelling stories at home.	Observation notes and documentation indicate improvement in literacy outcomes. Teacher and parent interviews confirm these findings.
Supporting Factors	• Teachers' creativity in designing simple visual aids. • Adequate school facilities. • Parental involvement (practice at home using simple visual media). • Teaching experience enhances adaptability in media use.	Interviews with teachers and principals highlight the importance of collaboration among schools, teachers, and families.
Inhibiting Factors	• Limited facilities and modern teaching aids. • Teachers' limited digital competence. • Insufficient time to design media-based lessons. • Children's fluctuating interests and boredom with repetitive materials.	Documentation shows inconsistent attention among children, e.g., boredom with repeated use of word cards.
Contextual Impacts on the Learning Environment	Visual media not only enhance literacy but also strengthen children's social interaction: • Children collaborate, share roles, and communicate positively. • Classroom dynamics become livelier and more inclusive. • Visual media contribute to both cognitive and socio-communicative development.	Observations indicate improved cooperation and peer interaction during media-based activities.

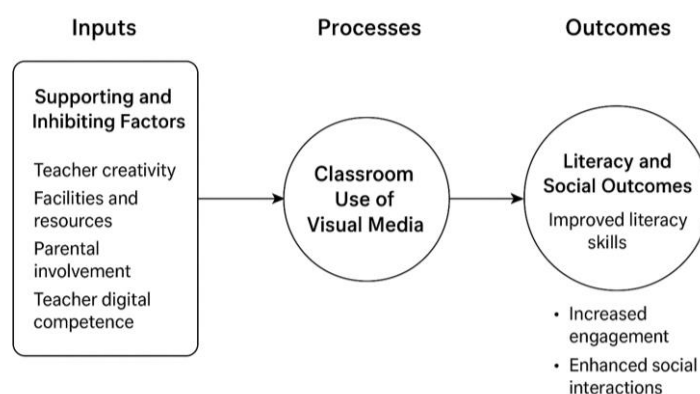


Figure. 1: Early Literacy Learning Process

First, Forms of visual media use in early literacy activities in the classroom. Teachers utilize various visual media such as word cards, illustrative pictures, picture storybooks, flannel boards, letter puzzles, and short interactive videos. Observations show that word cards and illustrative pictures are most often used to introduce letters and basic vocabulary, while picture storybooks are used to improve comprehension of simple stories. Media such as flannel boards and letter puzzles were used for collaborative activities that involved children's active participation in recognizing symbols. These results are consistent with previous studies, which confirm that visual media enrich

the learning experience and provide a multisensory stimulus that supports early literacy development (Lopatovska et al., 2016; Hunze et al., 2025).

Second, the contribution of visual media to early childhood literacy skills. Based on observation notes and documentation of children's work, there is an increase in children's ability to recognize letters, mention simple words, and understand the meaning of stories. Children show higher interest when teachers use visual media, which can be seen from increased attention and engagement during learning. Interviews with teachers corroborated that the use of visual media helps accelerate the process of recognizing new symbols and vocabulary. Interviewed parents also reported that their children were more enthusiastic about retelling stories at home after participating in visual media-based activities at school. This finding is in line with research that shows that visual literacy strengthens early literacy skills through the process of association between symbols and meaning (Yeatman et al., 2024; Gutiérrez-Fresneda et al., 2026).

Third, the supporting and inhibiting factors of using visual media in early childhood literacy learning. Interviews with teachers and principals showed that teachers' creativity in developing simple media, the availability of school facilities, and parental support are aspects that strengthen the effectiveness of visual media implementation. Teachers with longer teaching experience are better able to modify the media according to children's needs. In addition, parents' involvement, especially in helping children practice at home with simple visual media such as word cards or storybooks, accelerates children's literacy development. Similar supporting factors were also found in other studies that emphasized the importance of collaboration between schools, teachers, and families in early childhood education (Kumar et al., 2026; Karkar-Esperat et al., 2026).

Teachers identified limited facilities and infrastructure, such as a lack of modern teaching aids and interactive media, as the main obstacle. In addition, there are still teachers who find it difficult to utilize digital technology as a visual medium due to limited technical competence. Another factor is the limited time in designing visual media-based learning, as well as the fluctuation of children's interests, which sometimes switches quickly. Documentation also shows that not all children have consistent attention to certain visual media; for example, some children get bored quickly with the repetitive use of word cards. These barriers are also found in other studies that show that the availability of resources and teacher competence affect the quality of visual media-based learning in ECD (Syahrudin, 2026; Ye & Xu, 2026).

In addition, there are some contextual impacts of using visual media on the learning environment in kindergarten. This is based on observational data, which shows that visual media not only improve literacy skills but also strengthen children's social interactions in the classroom. When using media such as letter puzzles or flannel boards, children cooperate more, share roles, and interact positively. Teachers reported that the classroom dynamics became livelier, with children's involvement more evenly distributed compared to lecture or text-based learning. This data shows that visual media contributes not only to cognitive aspects but also to strengthening children's social and communication skills. This finding is in line with international literature that emphasizes that visual literacy in early childhood education also has a significant social dimension (Cinkara et al., 2025; Vokatis et al., 2026).

Discussion

The results of this study indicate that visual media such as word cards, picture books, letter puzzles, and animated videos contribute significantly to improving early literacy in kindergarten-aged children. Their use varies according to the teacher's creativity, which supports the research objective of describing the actual practice of utilizing visual media. This can be understood through Piaget's cognitive development theory, which emphasizes that pre-operational children find it easier to understand abstract concepts through concrete experiences and visual icons. Visual media bridges symbols and meanings, thereby strengthening children's memory and facilitating the literacy process.

The findings of this study are consistent with previous studies that highlight the effectiveness of animation and interactive videos in increasing motivation and early reading skills. Digital-based interactive media has been proven to have positive results on children's literacy development, although there are still obstacles to its implementation, including limited school facilities and teacher competence. Although teachers have a positive perception of media literacy, their low conceptual understanding often hinders the optimal use of visual media in the classroom.

This research contribution is important because it enriches international literature by presenting real practices in Indonesian kindergartens, unlike the majority of studies that focus on developed countries. Within the framework of visual literacy theory, these results show that children not only learn to recognize letters but also develop skills in symbol interpretation, narrative, and social collaboration. The use of visual media also fosters children's confidence in communicating ideas through stories and pictures, in line with research findings on visual arts education.

Furthermore, this study is consistent with constructivist theory, which emphasizes the importance of active and participatory learning experiences. Media such as letter puzzles, flannel boards, and animations have been proven to encourage children to build knowledge independently. Compared to quantitative studies in Ghana, audiovisual media have also been proven to prevent monotonous learning and increase children's motivation. Another prominent supporting factor is parental involvement, which plays an important role in strengthening children's literacy at home and at school.

However, constraints in the form of limited infrastructure remain a major challenge, both in Indonesia and other countries such as Korea, where visual literacy is still in its early stages. To overcome this, teachers need professional training to improve their media literacy skills. The positive relationship between teachers' media literacy and teaching creativity emphasizes the importance of institutional support for educator capacity building.

Methodologically, this study uses a relevant qualitative case study approach to explore early literacy practices in context. These results reinforce the position of visual literacy as a basic skill equivalent to language literacy, and are in line with the global trend of STEAM education that emphasizes the development of creativity and critical thinking skills. Although the scope of the case is limited, this study provides an in-depth picture of the local context, while opening up opportunities for similar studies on a broader scale.

From a policy perspective, this study encourages the provision of adequate visual media facilities and media literacy training for early childhood education teachers. Digital-based visual media innovations that are appropriate to the local culture are also considered strategic for strengthening early literacy. In addition, previous studies have confirmed the close relationship between visual motor skills and early literacy, so that the use of visual media also helps children's fine motor development.

In practice, the visual arts have been proven effective in helping children's express ideas and emotions that are difficult to express verbally, so visual literacy also plays a role in their emotional development. This study emphasizes the need to systematically expand the visual media-based learning approach in kindergartens, taking into account age appropriateness, parental support, and teacher readiness. Further research is expected to explore the effectiveness of various forms of visual media in developing children's cognitive, social, and emotional literacy, thereby strengthening holistic early childhood education.

CONCLUSION

This study confirms that the use of visual media in early literacy learning in kindergarten contributes significantly to improving children's literacy skills. Media such as word cards, picture books, animated videos, and interactive teaching aids have been proven to facilitate children's recognition of letters, vocabulary, and understanding meaning more concretely and enjoyably. This practice also shows that the successful application of visual media is greatly influenced by teacher creativity, parental support, and the availability of learning facilities. Obstacles that arise, such as limited resources and teacher competence in utilizing visual media, are important factors that need to be overcome to optimize learning outcomes.

Theoretically, this study reinforces the conceptual framework of early literacy and visual literacy by showing that young children build language skills more effectively through concrete-*iconic* experiences. These findings also contribute to early childhood education practices by providing evidence that visual media are not merely tools, but an integral part of literacy learning strategies. At the practical level, this study encourages teachers to develop visual media innovations appropriate to the local context and emphasizes the importance of media literacy training for early childhood educators.

The implications of this study point to the need for more systematic integration of visual media into the early childhood education curriculum, taking into account the diversity of media appropriate to children's developmental stages. Further research could focus on evaluating the effectiveness of digital and locally-based visual media, thereby strengthening children's literacy skills not only in cognitive aspects, but also in social, emotional, and creative aspects.

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