International Journal of Islamic Early Childhood Education
https://e-journal.stai-ydi.ac.id/index.php/ijiced

The Impact of Using Digital Portfolios on Early Childhood Development Documentation

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Article Information:
Received Augst 15, 2026
Revised September 28, 2026
Accepted October 28, 2026

Kata Kunci: *Portfolio, Documentation, Development, Children, Digital*

Abstrak

The development of digital technology provides new opportunities for documenting early childhood development in educational institutions. However, recording child development is still often done conventionally, resulting in developmental data that is often poorly organized, difficult to access, and unattractive to parents. This study aims to analyze the influence of the use of digital portfolios on the effectiveness of early childhood development documentation. The research method used a quantitative approach with a survey design among PAUD teachers in Pasaman Regency. Data were collected through questionnaires, observation, and documentation, then analyzed using descriptive statistics and simple regression techniques. The results showed that the use of digital portfolios positively influenced the quality of child development documentation, particularly in aspects of data neatness, storage speed, ease of monitoring, and communication between teachers and parents. This study is expected to serve as a reference for PAUD institutions in developing effective, innovative, and sustainable digital technology-based learning documentation systems. In addition to improving administrative efficiency, digital portfolios also help teachers compile more accurate progress reports and support parental involvement in monitoring children's learning achievements. These findings demonstrate that technology integration in early childhood education can improve the quality of comprehensive learning services.

INTRODUCTION

The development of digital technology has brought changes to various aspects of life, including early childhood education (Agusti et al., 2018). The use of technology is not only used as a learning medium but also as a means of documenting student development more effectively and systematically. Documenting child development is an important part of the learning assessment process because it helps teachers monitor children's growth and development continuously (Eliza & Hartati, 2021). Documentation of child development includes children's work, progress notes, photos of activities, learning videos, and various other forms of assessment that illustrate children's developmental achievements (Fauziyah & Hasanah, 2022). However, in reality, many early childhood education institutions still use conventional documentation systems in the form of written records and physical storage.

How to cite: Zurianti., Yanti, S, N. (2026). The Impact of Using Digital Portfolios on Early Childhood Development Documentation. *International Journal of Islamic Early Childhood Education*, *2*(2), 41-48.

E-ISSN: 3109-9920
Published by: The Institute for Research and Community Service

This system often presents various challenges, such as easily lost data, messy storage, difficulty in retrieving data, and inefficient preparation of child development reports. Furthermore, parental involvement in monitoring child development is limited because documentation cannot be accessed flexibly. These conditions highlight the need for innovation in child development documentation systems to make them more effective, efficient, and in line with digital technology (Fauziddin, 2021). One possible alternative is a digital portfolio.

A digital portfolio is a collection of technology-based documentation that captures a child's learning outcomes, activities, and development in digital form, making it easy to store, access, and share with parents and schools. The use of digital portfolios is considered capable of improving the quality of learning documentation because the data is organized more systematically, securely, and supports communication between teachers and parents. The urgency of this research is based on the increasing need for the use of digital technology in the administration and documentation of early childhood education.

Early childhood education teachers are required to utilize technology to improve the quality of educational services, including in assessing child development. Good development documentation will help teachers understand children's learning needs and serve as a basis for developing learning programs appropriate to their developmental stage (V. M. Putri & Yaswinda, 2022). Several previous studies have shown that the use of digital technology in education has a positive impact on the effectiveness of learning and educational administration. Research by Suryana (2021) explains that the use of digital media in early childhood learning can increase teacher and parent involvement in the educational process. Research by Fitriani dan Rahmawati (2022) also shows that digital portfolios help teachers document children's learning outcomes in a more structured and engaging manner.

However, the implementation of child development documentation in early childhood education institutions still faces several challenges. Using printed documents, such as observation sheets, collections of work, and progress report books, requires time and adequate storage space. Manually organizing documents can also make it difficult for teachers to trace evidence of a child's development over a specific period (Anggraini & Putri, 2024). Furthermore, documentation scattered across various media can potentially lead to a lack of integration of child development information, requiring teachers to put in additional effort to compile comprehensive progress reports.

Teachers stated that storing physical documents takes up a lot of space and often results in data being lost or damaged. Furthermore, the manual process of compiling child development reports is also time-consuming. Based on these issues, this study aims to determine the effect of using digital portfolios on documenting early childhood development (Kurniawati & Fauziddin, 2024). This research is expected to contribute to the development of digital-based learning documentation systems in early childhood education institutions.

Most previous research has focused on the use of digital media in learning, while studies on the effectiveness of digital portfolios as a means of documenting child development have not been discussed in depth (Lestari & Handayani, 2023). Based on initial interviews with several early childhood education (PAUD) teachers in Pasaman Regency, it was found that some teachers still experience difficulties in compiling neat and sustainable documentation of child development. These difficulties are related to limited time to collect and organize evidence of child development, inconsistent recording of observations, and scattered documentation storage in various forms, such as written notes, photographs, and children's work (Mahyuddin et al., 2022).

Based on this description, this study aims to analyze the impact of digital

portfolio use on early childhood development documentation. This research is expected to contribute to the development of more systematic, effective, and sustainable child development assessment and documentation practices (Mulyasa, 2022). Practically, the research findings are expected to provide considerations for teachers and administrators of early childhood education institutions (PAUD) in utilizing digital technology to support the documentation process, as well as provide input for developing assessment strategies that still consider individual children's needs, parental involvement, and the protection of children's personal data.

METHOD

This study used a quantitative approach with a survey method to determine the effect of digital portfolio use on early childhood development documentation. The study was conducted at several early childhood education institutions in Pasaman Regency, with the research subjects being PAUD teachers who use child development documentation in the learning process. Data collection techniques were carried out through observation, questionnaires, interviews, and documentation. Observations were conducted to directly observe the process of using digital portfolios in learning activities and documenting child development. Questionnaires were given to teachers to obtain data on the use of digital portfolios and the effectiveness of child development documentation. Interviews were conducted to obtain more in-depth information regarding the obstacles and benefits of using digital portfolios in learning (Ningsih & Amelia, 2023).

Documentation was used to collect data in the form of digital portfolios, activity photos, and child development reports. The data obtained was then processed through several stages, namely editing, coding, data tabulation, and data analysis. The editing stage was carried out by checking the completeness of the data obtained from respondents. The coding stage was carried out by assigning a code to each questionnaire answer to facilitate the data processing process. Next, the data was tabulated into tables to facilitate analysis. Data analysis techniques used descriptive statistics and simple regression to determine the effect of digital portfolio use on early childhood development documentation. The results of the data analysis were then interpreted to obtain research conclusions in accordance with the research objectives.

RESULTS AND DISCUSSION

Research results show that the use of digital portfolios has a positive impact on documenting early childhood development. Based on a questionnaire administered to early childhood education (PAUD) teachers, most respondents stated that digital portfolios help the process of storing child development data more neatly, easily accessed, and more efficiently than manual documentation (Pratiwi & Yuliana, 2022). Furthermore, the use of digital portfolios also helps teachers compile child development reports more quickly and systematically. Parents can view their child's development through digital documentation shared by teachers, thus improving communication between schools and parents.

Table 1. Results of Using Digital Portfolio

No	Evaluation Aspects	Percentage
1	Data storage facilities	88%
2	Neatness of documentation	85%
3	Ease of data access	90%
4	Efficiency of report preparation time	83%
5	Communication with parents	87%

The table above shows that ease of data access achieved the highest percentage, at 90%. This indicates that using digital portfolios makes it easier for teachers and parents to monitor their children's progress anytime, anywhere.

Activity Documentation

Picture 1. Hana Reading the Quran



(Photo of Hana's activities while reading the Qur'an as documentation of the development of children's religious and moral values)

Figure 2. Hana Watering the Plants



(Photo of Hana's activities while watering plants as documentation of motor development and environmental awareness)

Figure 3. Hana Playing with Blocks



(Photo of Hana's activity playing with blocks as documentation of the child's cognitive development and creativity)

The results of the study indicate that the use of digital portfolios has a positive impact on the process of documenting early childhood development in early childhood education institution (Nofrizal et al., 2025). The use of digital portfolios helps teachers store various child development data in a more systematic and organized manner. Child development data that was previously stored in the form of physical documents can now be documented digitally in the form of photos, videos, children's work, and daily development notes that are stored more securely and are easily accessible (V. M. Putri, 2026). Based on field observations, early childhood education teachers feel that the use of digital portfolios can reduce the difficulty in storing child development documents. Before using digital portfolios, teachers had to manually store many worksheets, printed photos, and development notes, which required large storage space. In addition, physical documents were also susceptible to loss or damage.

After using a digital portfolio, teachers can store all documentation of a child's development in one digital medium, making it more practical and efficient (Izati et al., 2024). The use of a digital portfolio also simplifies the process of assessing a child's development. Teachers can review their child's development over time through continuously stored documentation. This helps teachers evaluate their child's development more accurately because all developmental data is systematically organized. This allows teachers to identify aspects of a child's development that have progressed well and those that still need improvement. In addition to assisting teachers, the use of a digital portfolio also provides benefits for parents (D. N. Putri et al., 2025). Based on interviews, parents find it easier to track their child's development because documentation can be viewed directly through digital media. Parents no longer need to wait for the distribution of progress reports at the end of the semester to learn about their child's activities and developmental achievements.

Through digital portfolios, parents can monitor their child's development at any time, thus enhancing communication between teachers and parents (V. M. Putri, 2026). Regarding the development of religious and moral values, digital documentation is evident in Hana's Quran reading activity. This activity demonstrates the child's development in recognizing the hijaiyah letters and the

habituation of religious activities from an early age. This documentation is important because it can serve as evidence of a child's spiritual development and the formation of religious character. Furthermore, digital documentation makes it easier for teachers to record a child's development over time (V. M. Putri & Eliza, 2021). Regarding motoric and socio-emotional development, Hana's activity of watering the plants demonstrates a growing sense of responsibility and concern for the environment. Children learn to engage in simple activities that train motor coordination and foster discipline and concern for the environment.

Documenting these activities serves as a form of authentic assessment that can truly illustrate a child's development(Sari & Dewi, 2021). Meanwhile, in terms of cognitive development and creativity, Hana's block-playing activities demonstrate the child's ability to think, arrange shapes, recognize sizes, and train imagination. Block-playing also helps children develop problem-solving and concentration skills. Digital documentation of these activities helps teachers observe the child's cognitive development process in greater detail (Rahma & Eliza, 2023). The results of this study indicate that the use of digital portfolios not only serves as a medium for storing documentation but also serves as a more effective means of evaluating child development.

Digital portfolios can assist teachers in conducting authentic assessments in accordance with the characteristics of early childhood learning, which emphasizes the child's holistic development process(Wiyani, 2022). Furthermore, the use of digital portfolios also supports improving the quality of learning administration in early childhood education institutions. Teachers find it easier to compile child development reports because the data is neatly stored. Time efficiency is also increased because teachers no longer need to search for physical documents stored in numerous folders or filing cabinets(Yaswinda, 2022).

The results of this study align with expert opinion, stating that digital technology can improve the effectiveness of learning management and educational documentation. The use of technology in early childhood education provides new experiences for teachers and parents in monitoring children's development in a more modern and flexible manner (V. M. Putri et al., 2022). With the existence of digital portfolios, the process of documenting child development becomes more interesting, interactive, and easier to understand (Yanti et al., 2025). However, in its implementation, several obstacles remain for teachers, such as limited ability to use digital technology and a lack of supporting facilities in some early childhood education institutions. Some teachers still need training on the use of applications or digital media in documenting child development. In addition, the availability of devices such as smartphones, laptops, and internet connections are also supporting factors for the successful use of digital portfolios (Yudelnilastia et al., 2025).

Despite several obstacles, the use of digital portfolios still offers many benefits in the process of documenting early childhood development (Susanto, 2021) Therefore, support from schools, parents, and the government is needed to increase the use of digital technology in early childhood education. This support can be provided through the provision of technological facilities, training in the use of digital media for teachers, and the development of a more effective and easy-to-use digital documentation system(Izati et al., 2024).

Thus, it can be concluded that the use of digital portfolios has a positive impact on the documentation of early childhood development. Digital portfolios help teachers store and manage child development data more effectively, improve the quality of communication with parents, and support the process of continuous assessment of child development. The use of digital portfolios is also an important innovation in improving the quality of early childhood education services in the current era of digital technology development. (Fauziddin, 2021)

CONCLUSION

Based on the research results, it can be concluded that the use of digital portfolios has a positive effect on the documentation of early childhood development (Hidayat & Sari, 2023). Digital portfolios help teachers store, manage, and access child development data more systematically, effectively, and efficiently than conventional documentation. In addition to improving the quality of learning administration, the use of digital portfolios also facilitates communication between teachers and parents in monitoring children's development continuously (Wahyuni & Nurhayati, 2024). Documentation of children's activities such as reading the Qur'an, watering plants, and playing with blocks shows that digital portfolios can authentically record various aspects of child development. Therefore, digital portfolios can be an innovation that supports improving the quality of assessment and documentation of learning in early childhood education in the digital technology era.

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International Journal of Islamic Early Childhood Education

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