

# Analysis of the Implementation of Training on Digital-based Learning Media to Enhance Teachers' Digital Literacy

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## ABSTRACT

This study aimed to analyze the implementation process, and impact of digital-based learning media training on Tahfiz teachers' digital literacy and identified factors influencing the success or limitations of these programs. Utilizing a descriptive method, the study encompassed observations, interviews, and document analysis involving five Tahfiz teachers, a training manager, and a school administrator. The data analysis procedure followed the Miles and Huberman model, comprising three key stages: data reduction, data display, and conclusion drawing, underpinned by triangulation for validity. The findings revealed that the training enhanced teachers' access to digital resources, flexibility in learning, and provided personalized, interactive learning experiences. However, challenges like limited technology access, lack of technical skills, resistance to change, and inadequate resources tailored to Islamic values were notable. The study concludes that comprehensive training in digital literacy is crucial for Tahfiz teachers to effectively integrate technology into their teaching. The study contributes to the discourse on technology integration in religious education, offering insights into policy and practice in Tahfiz education.

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## 1. INTRODUCTION

The use of digital technology in education has become increasingly prevalent in recent years, and this trend has also impacted the field of Tahfiz education (Ahmad Sabri, 2020; Nurhayati, 2021; R. Saragih et al., 2021; Wasyik & Hamid, 2020). As Tahfiz schools begin to incorporate digital technology into their teaching practices, it is essential for teachers especially Tahfiz teachers to possess digital literacy skills that enable them to effectively use these tools in the classroom (Marsegi et al., 2023; Wasyik & Hamid, 2020; Winarti et al., 2022). However, many Tahfiz teachers may not have had access to digital technology or training in digital literacy skills, which can hinder their ability to provide high-quality instruction to their students (Dalimunthe et al., 2021). Digital literacy refers to the ability to use digital tools and resources effectively and efficiently to achieve a desired outcome (Nurhayati et al., 2020, 2022; Nurhayati & Falah,

2020; Salim et al., 2020; Saribanon et al., 2020; Setiadi et al., 2023; Winarti et al., 2022). It involves a range of skills, such as the ability to use computers, the internet, and digital devices, as well as the ability to access, evaluate, and use digital information. In the context of Tahfiz education, digital literacy is essential for teachers to effectively integrate digital technology into their teaching practices (Nadhifah et al., 2023; M. Saragih et al., 2021).

Digital literacy is important in Tahfiz education for several reasons. Firstly, it can enhance the learning experience for students by providing them with access to a wide range of digital resources, such as multimedia materials and educational apps, that can facilitate their learning and engagement (Ghofur & Nurhayati, 2023b, 2023a). Digital tools can also provide students with more personalized learning experiences that cater to their individual needs and learning styles. Secondly, digital literacy can enable teachers to design and deliver effective digital-based learning experiences for their students (Winarti et al., 2022). This can include the use of learning management systems, digital assessments, and other tools to enhance teaching and learning outcomes (Iskandar et al., 2023; Marsegi et al., 2023; Nurhayati, Hidayat et al., 2023; Nurmalia et al., 2022). Digital literacy can also enable teachers to create digital content, such as videos and interactive quizzes, that can enhance the quality of their teaching and engage their students (Fauziddin et al., 2021). Thirdly, digital literacy can improve the efficiency and effectiveness of Tahfiz education (Milyane et al., 2023; Nuraeni & Nurhayati, 2023).

Digital tools can streamline administrative tasks, such as record-keeping and grading, allowing teachers to focus on teaching and providing feedback to their students. Digital literacy can also enable teachers to collaborate and communicate with their colleagues and students more effectively, facilitating the sharing of best practices and promoting a culture of continuous learning. In essence, digital literacy is essential for Tahfiz teachers to effectively integrate digital technology into their teaching practices and enhance the quality of Tahfiz education (Ikhwan et al., 2021; Jarkasih & Nurhayati, 2023; Juhana & Nurhayati, 2023; Orba Manullang et al., 2021; Tiarawati et al., 2023; Widyawati & Nurhayati, 2023). It can improve the learning experience for students, enable teachers to design and deliver effective digital-based learning experiences, and improve the efficiency and effectiveness of Tahfiz education. As such, it is important for Tahfiz schools to prioritize the development of digital literacy among their teachers through comprehensive training programs and other initiatives (Afriliandhi et al., 2022; Marsegi et al., 2023; Musa et al., 2022).

Digital media has been utilized in various ways in Tahfiz education, including the use of multimedia materials, educational apps, and learning management systems (Ghofur & Nurhayati, 2023b; Ikhwan et al., 2021; Nuraeni & Nurhayati, 2023; Nurhayati, Hidayat, et al., 2023; Orba Manullang et al., 2021; Wasyik & Hamid, 2020). These digital tools have enhanced the learning experiences of students by providing access to a broad range of resources that facilitated their learning and engagement. For instance, digital media enabled students to learn Quranic recitation and memorization through interactive digital games, videos, and audio recordings (M. Saragih et al., 2021). Research showed that training on digital-based learning media significantly improved teachers' digital literacy skills (Sadaf, 2019). These skills were crucial for effectively using digital-based learning media in the classroom. The integration of digital literacy into the classroom was recognized as a way to equip students with 21st-century skills. However, teachers often faced challenges in implementing digital-based learning media due to a lack of training and resources (Gouseti et al., 2023; Papanikolaou et al., 2016). To address these challenges, teacher training programs should focus on pedagogical strategies that promote critical thinking, creativity, communication, collaboration, and engagement. By equipping teachers with necessary digital literacy skills, they were able to effectively create, locate, and communicate digital content ethically (Virmani & Williamson, 2016). Overall, the literature supported the idea that implementing training on digital-based learning media improved teachers' digital literacy. To further support teachers in integrating digital literacy into the classroom, it was essential to address the challenges they faced due to a lack of training and resources.

The purpose of this qualitative study was to explore how training on digital-based learning media impacted teachers' digital literacy, along with identifying the key factors influencing the success or limitations of these training programs.

The research questions guiding this study are:

1. How did the implementation of training on digital-based learning media at Nurul Islam Al Husna Cimahi Tahfiz School impact the digital literacy of its teachers?
2. What were the key factors influencing the success or limitations of these training programs?

By addressing these questions, the study aims to provide a comprehensive understanding of the role of training in enhancing digital literacy among teachers in a specific educational context.

## 2. METHODS

This qualitative investigation adopted a descriptive approach to examine the training of digital-based learning media for enhancing digital literacy among Tahfiz teachers at the Nurul Islam Al Husna Tahfiz-Based Community Learning Center, Cimahi, West Java. Conducted throughout January and February 2023, this study encompassed five Tahfiz instructors (comprising four females and one male) teaching grades 1 through 6, alongside one training manager and one school administrator. The selection of participants was randomized yet criterion-based, targeting professional Tahfiz educators aged 19-30 years with proficiency in technology. Data were amassed through a triad of methodologies: observation, interviews, and analysis of documents. Over a fortnight, observation sessions were meticulously orchestrated to document the intricacies of the training process, utilizing a mix of field notes and video recordings to capture a holistic view of the training milieu. Customized interviews were conducted to glean comprehensive insights into the training's impact and the teachers' personal experiences, each lasting between 30 to 45 minutes to facilitate thorough discussions uninfluenced by the presence of other interviewees. Interviews were conducted in Bahasa Indonesia to ensure comfort and clarity, with each session audio-recorded and complemented by extensive note-taking for precise data collection. Document analysis constituted a vital element of the study, involving an in-depth review of training materials, worksheets, and supervision logs, thus enriching the observational and interview data with further contextual information.

The analysis of the collected data was guided by the Miles and Huberman model, which involved a systematic process of data reduction, data display, and conclusion drawing, all underpinned by triangulation to ensure validity and reliability. Data reduction entailed condensing the data to a manageable form, while data display involved organizing this reduced data into formats such as charts or graphs for easier interpretation. The study then progressed to drawing conclusions, where the displayed data was analyzed to identify significant patterns or themes. Triangulation, as a final step, involved corroborating findings from various sources — observations, interviews, and documents — to strengthen the credibility of the research conclusions. A detailed diagrammatic representation of the research framework will be included to visually summarize the research process, from data collection through to data analysis and conclusion.

## 3. FINDINGS AND DISCUSSION

Before presenting the findings, it is crucial to outline the data collection techniques and analysis methods employed in this study. Data was meticulously gathered through a triangulated approach, combining in-depth interviews, observations, and document analysis. The interviews, conducted with five Tahfiz teachers, the training manager, and the school administrator at Nurul Islam Al Husna, were structured around specific questions aimed at uncovering their experiences with digital-based learning media training. Observational data provided real-time insights into the training process, while document analysis, including a review of training materials and meeting minutes, helped corroborate the findings from the interviews and observations. The data analysis followed the Miles and Huberman model,

focusing on data reduction, data presentation, and conclusion drawing, thereby distilling key themes and patterns relevant to the training's effectiveness and impact.

### 3.1 Digital-Based Learning Media Training Planning and Implementation

The planning and implementation of the digital-based learning media training, as outlined by the training's chairman Mr. AJ, underwent a comprehensive and structured process. The training's chairman stated that, "Initially, the training planning started with the identification of learning gaps among the Tahfiz teachers then followed by the training design." This step was crucial in tailoring the training to meet specific needs and ensure its effectiveness. The subsequent stage involved a detailed analysis of these needs, leveraging the results of surveys conducted among the teachers and assessments of their current working conditions. This phase highlighted the significant opportunities that online learning could offer in the Tahfiz educational setting.

The training chairman reported that "The training design was a collaborative effort, involving meetings and discussions with various digital media practitioners, especially those with expertise in online learning and teaching." These deliberations were critical in shaping a training program that was both practical and relevant to the teachers' needs. Documentation, such as meeting minutes, played a pivotal role in substantiating the planning process and the decisions made. The actual training took place over three days, from January 18 to 20, 2023, at the Nurul Islam Al Husna Community Learning Centre's auditorium. Specialists from IKIP Siliwangi, renowned for their expertise in digital learning media, were brought in to conduct the training sessions. These sessions were aimed at enhancing the digital literacy skills of the Tahfiz teachers, equipping them with the necessary competencies to effectively integrate digital tools into their teaching practices. Following the training, a comprehensive evaluation was conducted to assess the training's effectiveness. This evaluation was instrumental in understanding the impact of the training on the teachers' digital literacy and identifying areas for further improvement in future training programs.

From the empirical data, Tahfiz teachers at Nurul Islam Al Husna revealed that they used digital tools and technologies such as WhatsApp, Zoom, Edmodo, and Google Classroom in their teaching. However, their confidence level in utilizing these tools and technologies for Tahfiz teaching and learning was categorized as low, based on the interviews and observations conducted. One participant stated that "I do not have enough confidence in using Edmodo for the learning process, it is a new experience for me, so I am not sure that I am good in it." It was noted that the Tahfiz teachers had never received specific training in digital-based learning media prior to this study. According to the results of an interview with Tahfiz Teacher LM, the benefits of digital-based learning media training for Tahfiz teachers included several key aspects:

1. **Access to Educational Resources:** The training provided Tahfiz teachers with straightforward access to a wide array of educational resources and materials, such as online courses, e-books, videos, and other digital resources, regardless of their geographical location. As stated by the participant, "The training gives me a lot of online teaching resources. Alhamdulillah, I am so glad."
2. **Flexibility:** Digital learning resources offered flexibility in terms of time and place, allowing teachers to participate in training activities at their own pace. This flexibility enabled them to balance their professional duties with personal obligations effectively.
3. **Interactive Learning:** Digital learning media frequently incorporated interactive elements like quizzes, simulations, and multimedia presentations, which enhanced engagement and active participation. This interactivity allowed Tahfiz teachers to engage more deeply with the material, subsequently enhancing their students' comprehension and retention of the subject matter.
4. **Individualized Learning Experiences:** The training facilitated individualized educational experiences, where teachers could select topics and modules that matched their specific interests and needs, focusing on areas requiring improvement or further development.

5. **Continuing Professional Development:** The training provided access to numerous up-to-date resources, research findings, and best practices, keeping the teachers informed of the latest trends and developments in Tahfiz education. The participant said that "Before the training I do not know the latest online tool to practice my Qur'an memorization. Now I know many games to practice it with my students."
6. **Collaboration Opportunities:** The training promoted collaboration between Tahfiz instructors. Teachers could participate in online forums, virtual meetings, and collaborative projects, exchanging ideas and knowledge with peers from various backgrounds. Teacher LM commented that "it's fun to collaborate with other tahfiz teachers in the training. Now I can share my teaching challenges with other professionals and seek solutions together."
7. **Immediate Feedback and Evaluation:** The training often included immediate feedback and evaluation mechanisms, enabling teachers to receive timely insights into their progress and performance. This feedback was crucial for identifying areas for advancement and modifying instructional strategies accordingly.
8. **Cost-Effectiveness:** Digital-based learning media training presented a more economical option for the professional development of Tahfiz instructors. Compared to traditional training programs, online courses and resources were often more cost-effective, eliminating the need for travel expenses and thereby reducing overall training costs. The teacher said that "The training doesn't cost anything but my phone quota. And it's really benefitting me."

The initial steps taken to identify learning gaps among Tahfiz teachers and design a training program tailored to their specific needs resonate with current educational research emphasizing the importance of customized professional development programs. Studies suggest that training programs that address the specific challenges and requirements of educators in their unique contexts are more effective in enhancing teacher competencies and student outcomes (Noor & Nurhayati, 2023; Nurhayati, 2022; Nurhayati, Nugraha, et al., 2021). The involvement of digital media practitioners and experts in the design and delivery of the training program is aligned with research advocating for collaborative approaches to professional development. Such collaboration ensures that the training is grounded in practical realities and benefits from a wide range of expertise, thereby enhancing its relevance and effectiveness (Antinluoma et al., 2021).

The reported low confidence levels among Tahfiz teachers in utilizing digital tools echo broader findings in the literature, which highlight digital literacy as a critical area for development among educators (Novitasari & Fauziddin, 2022; Susanti & Nurhayati, 2024; Winarti et al., 2022). Research indicates that even when teachers are aware of digital tools, a lack of confidence in their ability to use these tools effectively can hinder the integration of technology in teaching (Iskandar et al., 2023; Musa et al., 2022; Nurhayati & Musa, 2020; Ranieri & Bruni, 2018).

### **3.2 Teachers' Challenges When Using Digital-Based Learning Media**

From the interviews and observation results during the training, tahfiz teachers faced several challenges when using digital-based learning media, which were identified through the study:

1. **Limited Technology Access:** They experienced difficulty in accessing and utilizing digital-based learning media due to limited availability of reliable internet connections, computers, and other necessary technological devices. One participant stated that "when the signal is unstable, I can not hear clearly the training materials presented."
2. **Lack of Technical Skills:** The teachers lacked the technical skills and digital literacy required to effectively navigate and use digital-based learning media. This included challenges in operating software, administering online platforms, and resolving technical issues.
3. **Resistance to Change:** A prevalent obstacle was resistance to change. Accustomed to traditional teaching methods, the teachers were often reluctant to adopt new technologies and needed

additional support and training to fully embrace digital tools. As one teacher said, "I do not know how to keep up with the digital teaching tools, and I am not really sure how to do it."

4. **Integration Challenges:** Integrating digital learning media into the classroom demanded extra time for preparation, content creation, and familiarization with new instruments, which made it difficult for the teachers to balance these responsibilities with their regular teaching duties. Teacher S stated that "I need extra hours to prepare the tahfiz materials into a good video. And sometimes I feel really overwhelmed."
5. **Resource Accessibility:** There was a lack of access to high-quality, culturally-appropriate, and relevant resources in digital learning media, making it challenging for the teachers to find resources that aligned with their instructional goals and Islamic values. Teacher ES said "I need to find suitable song that can be used for the tahfiz learning for children and it is also has to be appropriate with our Islamic values. And sometimes there is no free access to it."
6. **Inadequate Support and Training:** The effectiveness of using digital-based learning media was impeded by inadequate support and training opportunities, highlighting the need for individualized guidance and professional development programs to develop the teachers' skills and confidence in using these tools. The participants stated that "I need some kind of private guidance program on how to use digital learning media. Cause the variety of the tools makes me confused on how to use it effectively."
7. **Student Engagement Issues:** Maintaining student motivation and engagement in a digital learning environment proved difficult, as designing interactive and engaging online activities that replicated the in-person learning experience was challenging. The teacher stated that "it is quite exhausting to make the students stay focus during the video call tahfiz session, or in the zoom room learning."
8. **Adapting Assessment Methods:** Adapting assessment and feedback procedures to the digital environment, to ensure fair and accurate assessments and timely feedback, required the use of innovative methods and tools.
9. **Privacy and Security Concerns:** Digital learning resources posed privacy and data security issues for students. When utilizing online platforms and resources, the teachers had to ensure the privacy and security of sensitive student information.
10. **Unequal Access for Students:** Not all Tahfiz pupils had equal access to digital devices and dependable internet connections, resulting in unequal access to digital-based learning materials. This necessitated that teachers develop alternate solutions to address these disparities. Teacher N commented that one of her students do not have good smartphone, and sometime the battery easily goes low and the learning just ended up every time the phone died. So, the student's learning progress was far behind the other students."

The findings of this study are consistent with previous research on the benefits and challenges of digital-based learning media in education. For instance, the benefits of digital-based learning media training identified in this study, such as access to resources, flexibility, and individualized learning, have been previously reported in the literature (Ghofur & Nurhayati, 2023a, 2023b; Komara et al., 2022; Marsegi et al., 2023; Smaragdina et al., 2020; Sutama et al., 2021). Moreover, the challenges of limited access to technology and technical skills, resistance to change, and inadequate support and training opportunities have also been documented in previous studies (Cacam et al., 2023; Fauziddin et al., 2021; Musa et al., 2022; Nurhayati, Musa, et al., 2021; Suharyat et al., 2022; Tiarawati et al., 2023; Winarti et al., 2022). The findings of this study also highlight the importance of addressing the cultural and religious context of digital-based learning media in *tahfiz* education. For instance, the lack of appropriate resources that align with Islamic values is a significant challenge that tahfiz teachers face when using digital-based learning media. This finding is consistent with previous research that highlights the importance of incorporating cultural and religious values in digital-based learning media (Ferdiansyah; & Ambiyar, 2020; Ghofur & Nurhayati, 2023b; Izzah et al., 2020; K & Nurhamidah, 2021; Nuraeni & Nurhayati, 2023; Pischetola, 2011; Rachmah et al., 2021; Reisoğlu, 2021; Syahroni et al., 2020). Additionally, the study

highlights the importance of maintaining student motivation and engagement in a digital learning environment, which has been shown to be challenging in previous research (Juhana & Nurhayati, 2023; Lismayanti et al., 2021; Milyane et al., 2023; Nurhayati, 2021; Nurhayati, Hidayat, et al., 2023; Nurhayati, Qudsi, et al., 2023; Rahayu & Nurhayati, 2023).

### 3.3 Training Results

Based on the observation study and interview results, Tahfiz teachers indicated that digital-based learning media training was highly effective in enhancing their digital literacy. The key reasons identified were:

1. **Development of Technical Skills:** The training provided opportunities for Tahfiz teachers to develop and enhance their technical skills. They learned how to navigate digital platforms, operate various software and tools, and effectively troubleshoot technical issues.
2. **Hands-on Learning Experiences:** The training offered hands-on experiences, enabling Tahfiz teachers to actively engage with digital tools and platforms. Through practical exercises and activities, they gained firsthand experience in using technology for educational purposes.
3. **Personalized Learning Pathways:** The training allowed teachers to personalize their learning, choosing modules or courses that aligned with their specific needs and focus areas. This customization enabled them to improve their digital literacy in targeted areas of interest.
4. **Exposure to Diverse Digital Resources:** Teachers were exposed to a wide range of digital resources, including online tutorials, webinars, e-books, and instructional videos. Access to these resources helped them explore different tools and technologies, expanding their digital literacy horizons.
5. **Encouragement of Collaboration and Networking:** The training encouraged collaboration and networking among Tahfiz teachers. They engaged in online forums, discussion groups, and virtual communities, learning from and exchanging ideas with peers who had varying levels of digital literacy.
6. **Ongoing Professional Development:** The training provided continuous professional development opportunities. Tahfiz teachers stayed updated with the latest advancements, trends, and best practices in digital education, ensuring their digital literacy remained current and relevant.
7. **Integration of Technology into Teaching:** Effective training emphasized the integration of technology into pedagogical practices. Teachers learned how to leverage digital tools and platforms to enhance teaching and learning experiences, fostering creativity, engagement, and critical thinking among students.
8. **Practical Application Exercises and Real-world Scenarios:** The training often included practical application exercises and scenarios that mirrored real-world situations. Tahfiz teachers applied their newly acquired digital literacy skills in designing instructional materials, creating interactive learning activities, and utilizing online assessment tools.
9. **Nurturing Problem-solving Abilities:** Training nurtured the teachers' problem-solving abilities within the digital realm. They developed skills to identify and address technical challenges, adapt to changing technologies, and find innovative solutions for their digital teaching practices.
10. **Building Confidence in Using Digital Tools:** Through the training, Tahfiz teachers gained confidence in their ability to effectively use digital tools and platforms. This newfound confidence fostered a positive mindset, encouraging them to explore and experiment with various technologies, thus further enhancing their digital literacy skills.
11. The Tahfiz teachers also recommended that to improve the effectiveness of digital-based learning media training, it should be conducted regularly and the curriculum should be continually updated to keep pace with technological advancements. They also suggested that Tahfiz institutions should support the teachers in integrating digital-based learning media into their teaching practices. This support could include providing enhanced facilities that bolster digital

Tahfiz learning, such as ensuring a strong Wi-Fi connection and supplying updated laptops and modern gadgets.

The results of the study indicated that the digital-based learning media training program positively impacted the Tahfiz teachers' digital literacy level. The findings of this study have implications for practice and policy. The study suggests that *tahfiz* teachers require training and support in digital-based learning media to integrate it effectively into their teaching practices. Therefore, educational institutions and policymakers should provide adequate training and support to *tahfiz* teachers in digital-based learning media. Moreover, educational institutions and policymakers should address the cultural and religious context of digital-based learning media to ensure that the resources and tools used are appropriate and align with Islamic values. Additionally, policies and guidelines on privacy and data security should be developed to ensure that students' privacy is protected when using digital-based learning media. The study has several implications for *Tahfiz* education. Firstly, it highlights the importance of digital literacy among Tahfiz teachers and the need for comprehensive training programs to improve their skills. Secondly, it demonstrates the potential of digital-based learning media to enhance the quality of Tahfiz education and improve students' learning outcomes. Finally, it provides a framework for implementing effective digital-based learning initiatives in Tahfiz schools, which can be replicated in other settings.

The use of digital media in Tahfiz education can also provide teachers with more personalized and efficient teaching experiences. By using digital tools, teachers can create and distribute digital materials such as videos and quizzes, that cater to the individual needs and learning styles of their students. Furthermore, digital media can also streamline administrative tasks, such as record-keeping and grading, allowing teachers to focus on teaching and providing feedback to their students (Marsegi et al., 2023). The potential benefits of using digital media in Tahfiz education are numerous. Firstly, it can improve students' engagement and motivation to learn, as digital tools provide an interactive and visually appealing learning experience. Secondly, it can enhance students' understanding and retention of Quranic knowledge by providing them with access to a wide range of digital resources, such as multimedia materials and interactive quizzes. Finally, the use of digital media can also facilitate communication and collaboration between teachers and students, allowing for a more collaborative and interactive learning environment that have been mentioned in earlier studies (Ainia et al., 2021; Chew et al., 2023; Ikhwan et al., 2021; M. Saragih et al., 2021; Solihin, 2020; Susanti & Nurhayati, 2024; Susanto et al., 2021; Wasyik & Hamid, 2020).

Incorporating digital tools into Tahfiz teaching practices can present several challenges for teachers (Kusmawati, 2019; Nadhifah et al., 2023). Firstly, some teachers may lack the necessary digital literacy skills to effectively use digital tools in their teaching. Without adequate training and support, teachers may struggle to navigate and effectively utilize digital tools, resulting in a less effective learning experience for students. Secondly, there may be limited access to digital resources and tools in some Tahfiz schools, particularly in low-resource settings. This can make it difficult for teachers to incorporate digital tools into their teaching, as they may not have access to the necessary technology or resources. Thirdly, incorporating digital tools into teaching practices may require a significant investment of time and effort on the part of teachers. This may be particularly challenging for teachers who already have heavy workloads and limited time for professional development. Additionally, some teachers may be resistant to change and may be reluctant to adopt new teaching methods, particularly if they are unfamiliar with a digital tools or do not see their value. Challenges in incorporating digital tools into Tahfiz teaching practices may include limited digital literacy skills, limited access to digital resources, and a significant investment of time and effort required by teachers. Addressing these challenges will be important for schools to fully realize the potential benefits of digital tools in enhancing the quality of Tahfiz education. The study contributes to the growing body of literature on the integration of technology in religious education and provides practical recommendations for improving digital literacy among Tahfiz teachers. It is hoped that this article will inspire further research and innovation in the field of digital-based religious education.

#### 4. CONCLUSION

This study investigated the effects of digital-based learning media training on the digital literacy of Tahfiz teachers and identified the critical factors influencing the success or limitations of these initiatives. The findings demonstrate a positive impact on Tahfiz teachers' digital literacy, offering them enhanced access to educational resources, learning flexibility, interactive experiences, individualized learning paths, and cost-efficiency. However, challenges such as limited access to technology, gaps in technical skills, resistance to change, and the necessity for culturally appropriate resources were also highlighted. The significance of considering cultural and religious contexts in the deployment of digital learning media is emphasized. A limitation of this study is its reliance on qualitative data without quantitative assessments, such as pre-and post-tests, primarily capturing participants' perceptions and experiences. This approach may not entirely reflect the effectiveness of the training in enhancing digital literacy. Future research should incorporate quantitative methods for a more comprehensive evaluation of digital literacy training programs. Additionally, developing digital resources aligned with Islamic values and establishing robust support systems for teachers in resource-constrained environments is recommended. This study underlines the importance of ongoing professional development in digital literacy for Tahfiz teachers, tailored to their unique educational contexts. It contributes to the broader discussion on technology integration in religious education, offering practical insights for enhancing digital literacy in Tahfiz settings.

#### REFERENCES

- Afriandi, C., Hidayati, D., Istiqomah, I., & Melawati, A. (2022). Teacher's Digital Literacy to Improve Quality in Learning. *IJECA (International Journal of Education and Curriculum Application)*, 5(1), 17. <https://doi.org/10.31764/ijeca.v5i1.7327>
- Ahmad Sabri. (2020). Trends of "Tahfidz House" Program in Early Childhood Education. *JPUD - Jurnal Pendidikan Usia Dini*, 14(1), 71–86. <https://doi.org/10.21009/jjud.141.06>
- Ainia, W., Martati, B., & Rahayu, A. P. (2021). Analisis Metode Menghafal Al-Qur'an Pada Anak Usia Dini Di Tahfidzhul Anak Usia Dini (Taud Saqu) Pondok Pesantren Karangasem Paciran Lamongan. *Pedagogi: Jurnal Anak Usia Dini Dan Pendidikan Anak Usia Dini*, 7(1), 21–35. <http://journal.um-surabaya.ac.id/index.php/Pedagogi/article/view/6232>
- Antinluoma, M., Ilomäki, L., & Toom, A. (2021). Practices of Professional Learning Communities. *Frontiers in Education*, 6(April), 1–14. <https://doi.org/10.3389/educ.2021.617613>
- Cacam, E., Nurhayati, S., Ansori, A., Boriboon, G., & Shomedran. (2023). Andragogy-Based Approach Learning Implementation In Open High School. *Paedagogia*, 14(4), 405–411.
- Chew, M., Spurdle, T., & Mathieu, P. (2023). Tahfidz Al-Quran Learning Methods With Superior Class Programs. *Journal Neosantara Hybrid Learning*, 1(1), 37–53. <https://doi.org/10.55849/jiem.v1i1.1>
- Dalimunthe, R. A., Efendi, R., & Lubis, M. (2021). Challenges of Islamic Teachers in Implementing the Tahfiz Qur'an Program During the Covid-19 Pandemic. *International Seminar of Islamic Studies*, 2, 882–889. <http://journal.umsu.ac.id/index.php/insis/article/view/6465>
- Fauziddin, M., Mayasari, D., & Rizki, L. M. (2021). Effective Learning for Early Childhood during Global Pandemic. *AL-ISHLAH: Jurnal Pendidikan*, 13(1), 515–522. <https://doi.org/10.35445/alishlah.v13i1.458>
- Ferdiansyah, & Ambiyar; (2020). Pemanfaatan Media Pembelajaran Berbasis E Learning dalam Meningkatkan Hasil Belajar pada Matakuliah Media Pembelajaran Musik. *Jurnal Pendidikan, Bahasa Dan Seni*, 21(1), 1–11. <https://doi.org/10.24036/komposisi.v21i1.42098>
- Ghofur, E. H., & Nurhayati, S. (2023a). Multimedia-Based Learning Media Development to Improve Early Childhood Expressive Language Ability. *Obsesi*, 7(2), 2373–2382. <https://doi.org/10.31004/obsesi.v7i2.4416>
- Ghofur, E. H., & Nurhayati, S. (2023b). Multimedia-Based Storytelling Learning Media Effectivity For

- Early Childhood ' s Expressive Language Skill Development. *Obsesi*, 7(6), 6677–6686. <https://doi.org/10.31004/obsesi.v7i6.4682>
- Gouseti, A., Lakkala, M., Raffaghelli, J., Ranieri, M., Roffi, A., & Ilomäki, L. (2023). Exploring teachers' perceptions of critical digital literacies and how these are manifested in their teaching practices. *Educational Review*, 1–35. <https://doi.org/10.1080/00131911.2022.2159933>
- Ikhwan, A., Anwar, S., & Mahmudah, N. (2021). Tahsin and Tahfidz Learning System at Integrated Islamic Elementary School (SDIT) Insan Madani During the Pandemic Covid-19. *Al-Hayat: Journal of Islamic Education*, 5(1), 1. <https://doi.org/10.35723/ajie.v5i1.154>
- Iskandar, A., Winata, W., Kurdi, M. S., Sitompul, P. H. S., Kurdi, M. S., Nurhayati, S., Hasanah, M., & Haluti, F. (2023). Transformasi Pembelajaran Melalui Augmented Reality dan Virtual Reality. In *Peran Teknologi Dalam Pendidikan*.
- Izzah, L., Adhani, D. N., & Fitroh, S. F. (2020). Pengembangan Media Buku Dongeng Fabel untuk Mengenalkan Keaksaraan Anak Usia 5-6 Tahun Di Wonorejo Glagah. *Jurnal PG-PAUD Trunojoyo : Jurnal Pendidikan Dan Pembelajaran Anak Usia Dini*, 7(2), 62–68. <https://doi.org/10.21107/pgpaustrunojoyo.v7i2.8856>
- Jarkasih, A., & Nurhayati, S. (2023). Improving Santri's Noble Characters Through Qur'an Based Learning Management in Pesantren Jaohar. *Aksara*, 09(2), 1–7. <https://doi.org/http://dx.doi.org/10.37905/aksara.9.2.1137-1150.2023>
- Juhana, E., & Nurhayati, S. (2023). Parents ' Strategies in Improving Childrens ' Ability t o Memorize Al Qur ' an. *SPEKTRUM Jurnal Pendidikan Luar Sekolah (PLS)*, 11(2). <https://doi.org/10.24036/spektrumpls.v11i2.113997>
- K, R. S. Y., & Nurhamidah, D. (2021). *Aplikasi Inshot sebagai Media Pembelajaran Jarak Jauh pada Pelajaran Bahasa Indonesia Inshot Application as A Remote Learning Media in Indonesian Learning*. 21(April), 34–40.
- Komara, C., Supraptiningsih, N., & Setyaningsih, T. (2022). PELATIHAN PEMBUATAN MEDIA AJAR DIGITAL PREZI VIRTUAL PRESENTATION SOFTWARE BAGI GURU-GURU SMPN 1 CILEUNGI BOGOR. *PEKAMAS*, 2(1). <https://www.sma1-sukawati.sch.id/>
- Kusmawati, H. (2019). Strategi Peningkatan Kompetensi Asatidz dan Asatidzah Al-Qur'an dalam Pembelajaran Tahfidz Qur'an Menyongsong Revolusi Industri 5.0. *El-Tarbawi*, 12(1), 88–100. <https://doi.org/10.20885/tarbawi.vol12.iss1.art6>
- Lismayanti, M., Nurhayati, S., & Rosita, T. (2021). Peran Orang Tua Dalam Memotivasi Anak Untuk Mengikuti Pembelajaran E-Learning (Online) Dalam Meningkatkan Minat Baca Pada Program Kesetaraan Paket C Di Pkbm Srikandi. *Comm-Edu (Community Education Journal)*, 4(2), 38. <https://doi.org/10.22460/comm-edu.v4i2.6794>
- Marsegi, S. M., Nurhayati, S., Ansori, A., & Hendriana, H. (2023). Digital-Based Portfolio Assessment Competence of Early Childhood Educators. *Obsesi*, 7(1), 251–259. <https://doi.org/10.31004/obsesi.v6i6.3360>
- Milyane, T. M., Darmaningrum, K., Natasari, N., Setiawan, G. A., Sembiring, D., Irwanto, I., Kraugusteeliana, K., Fitriyah, N., Sutisnawati, A., Sagena, U., Nurhayati, S., Indriana, I. H., & Putri, M. S. (2023). Literasi Media Digital. In T. M. Milyane (Ed.), *CV WIDINA MEDIA UTAMA*. CV WIDINA MEDIA UTAMA.
- Musa, S., Nurhayati, S., Jabar, R., Sulaimawan, D., & Fauziddin, M. (2022). Upaya dan Tantangan Kepala Sekolah PAUD dalam Mengembangkan Lembaga dan Memotivasi Guru untuk Mengikuti Program Sekolah Penggerak. *Obsesi*, 6(5), 4239–4254. <https://doi.org/10.31004/obsesi.v6i5.2624>
- Nadhifah, N., Mustaqim, A., Syukur, F., Mustofa, M. Y., & Az-, N. (2023). Innovating Tahfidz Learning in the Covid-19 Pandemic ; a Case Study in Indonesia. *Journal of Nonformal Education*, 9(1), 106–113.
- Noor, A. H., & Nurhayati, S. (2023). Needs Assessment of Training And Education On Money Management To Increase The Low- Income Family 's Financial Empowerment. *Jurnal Review Pendidikan Dan Pengajaran*, 6(4), 90–95.

- Novitasari, Y., & Fauziddin, M. (2022). Analisis Literasi Digital Tenaga Pendidik pada Pendidikan Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(4), 3570–3577. <https://doi.org/10.31004/obsesi.v6i4.2333>
- Nuraeni, A., & Nurhayati, S. (2023). Efektivitas Workshop Pembuatan Buku Digital Modul Ajar dalam Meningkatkan Kompetensi Pedagogik Pendidik PAUD. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(5), 5745–5756. <https://doi.org/10.31004/obsesi.v7i5.4787>
- Nurhayati, S. (2021). *Pendidikan Masyarakat Menghadapi Digitalisasi*. El-Markazi.
- Nurhayati, S. (2022). Strategi Integrasi Perencanaan Pendidikan Islam Menurut Kebutuhan Masyarakat. In Y. Suharyat (Ed.), *Perencanaan Pendidikan Islam*. Media Sains Indonesia.
- Nurhayati, S., & Falah, A. M. N. (2020). Implementasi Workshop Literasi Digital Dalam Membangun Keberdayaan Ekonomi Masyarakat. *JMM (Jurnal Masyarakat Mandiri)*, 4(3), 348–359. <https://journal.ummat.ac.id/index.php/jmm/article/view/2457>
- Nurhayati, S., Fasa, M. I., Panjaitan, R., Indriyani, D., & Fadlyansyah, R. M. (2020). Digital Marketing Literacy for Marginalized Society To Improve Society'S Economic Empowerment. *The International Conference on Innovations in Social Sciences and Education*, 505–516.
- Nurhayati, S., Hidayat, A. W., Awan, I. S., & Noviatul, D. (2023). The Effectiveness of Virtual Classroom Learning in Islamic Early Childhood Education. *2nd Paris Van Java International Seminar on Health, Economics, Social Science and Humanities (PVJ-ISHESSH 2021)*, 2023, 428–437. <https://doi.org/10.18502/kss.v8i4.12927>
- Nurhayati, S., & Musa, S. (2020). Analysis of Students' Internet Utilization to Improve Public Information Literacy in the Industrial Revolution Era 4.0. *Society*, 8(2), 557–566. <https://doi.org/10.33019/society.v8i2.231>
- Nurhayati, S., Musa, S., Boriboon, G., Nuraeni, R., & Putri, S. (2021). Community Learning Center Efforts to Improve Information Literacy in the Community for Cyber Crime Prevention during a Pandemic. *Journal of Nonformal Education*, 7(1), 32–38. <https://doi.org/10.15294/jne.v7i1.26883>
- Nurhayati, S., Noor, A. H., Musa, S., Jabar, R., & Abdu, W. J. (2022). A Digital Literacy Workshop Training Model for Child Parenting in a Fourth Industrial Era. *HighTech and Innovation Journal*, 3(3), 297–305. <https://www.hightechjournal.org/index.php/HIJ/article/view/273>
- Nurhayati, S., Nugraha, W. A., & Solihah, H. (2021). Needs analysis of childrens' right curriculum for parenting education. *5th International Conference on Early Childhood Education (ICECE 2020)*, 278–282. <https://doi.org/10.2991/assehr.k.210322.059>
- Nurhayati, S., Qudsi, N. A., Rukanda, N., & Fitri, A. (2023). Parents-School Strategic Collaborations in Early Childhood School From-Home Learning During the Pandemic. *Al Ishlah*, 15(1), 964–971. <https://doi.org/10.35445/alishlah.v15i1.2605>
- Nurmalia, N., Nurhayati, S., & Noor, A. H. (2022). Developing Students' Leadership Spirit during COVID-19 Pandemic through Virtual-Based Scouting Activities. *Society*, 10(2), 447–456. <https://doi.org/10.33019/society.v10i2.412>
- Orba Manullang, S., Mardani, M., & Aslan, A. (2021). The Effectiveness of Al-Quran Memorization Methods for Millennials Santri During Covid-19 in Indonesia. *Nazhruna: Jurnal Pendidikan Islam*, 4(2), 195–207. <https://doi.org/10.31538/nzh.v4i2.1334>
- Papanikolaou, K. A., Makrh, K., Magoulas, G. D., Chinou, D., Georgalas, A., & Roussos, P. (2016). Synthesizing Technological and Pedagogical Knowledge in Learning Design. *International Journal of Digital Literacy and Digital Competence*, 7(1), 19–32. <https://doi.org/10.4018/IJDLDC.2016010102>
- Pischetola, M. (2011). Digital Media and Learning Evolution: A Research on Sustainable Local Empowerment. *Global Media Journal*, 11(18), 1. <https://www.proquest.com/scholarly-journals/digital-media-learning-evolution-research-on/docview/873209129/se-2?accountid=31562>
- Rachmah, R., Nurhayati, S., & Alam, S. (2021). Penerapan Media Pembelajaran Number Board Modifikasi Dalam Meningkatkan Kemampuan Berhitung Permulaan Anak Usia Dini Pada Kelompok A. *Jurnal Ceria*, 04(04), 342–349.
- Rahayu, S., & Nurhayati, S. (2023). Implementation of Positive Parenting In Early Childhoods' Families

- During The Learning From Home Program. *Jurnal Simki Pedagogia*, 6(2), 512–519. <https://doi.org/10.29407/jsp.v6i2.312>
- Ranieri, M., & Bruni, I. (2018). Digital and media literacy in teacher education: Preparing undergraduate teachers through an academic program on digital storytelling. In *Handbook of Research on Media Literacy in Higher Education Environments* (pp. 90–111). IGI Global. <https://doi.org/10.4018/978-1-5225-4059-5.ch006>
- Reisoğlu, İ. (2021). How Does Digital Competence Training Affect Teachers' Professional Development and Activities? *Technology, Knowledge and Learning*. <https://doi.org/10.1007/s10758-021-09501-w>
- Sadaf, A. (2019). Exploring Teachers' Value Beliefs of Integrating Digital Literacy in K-12 Classrooms. *International Journal of Digital Literacy and Digital Competence*, 10(2), 1–14. <https://doi.org/10.4018/IJDLDC.2019040101>
- Salim, S., Basri, A. M., Husain, D. L., Hidayah, A. N., & Nurhayati, N. (2020). the Use of Digital Literacy in Higher Education. *AL-ISHLAH: Jurnal Pendidikan*, 12(1), 52–66. <https://doi.org/10.35445/alishlah.v12i1.197>
- Saragih, M., Syukri Nst, H., Harisma, R., & Batubara, I. H. (2021). Digital Literation Models Development Based School Culture to Improve Students' Life Skill in the 21st Century. *AL-ISHLAH: Jurnal Pendidikan*, 13(1), 307–316. <https://doi.org/10.35445/alishlah.v13i1.362>
- Saragih, R., Mesiono, M., & Nasution, I. (2021). The Management of Tahfidz Al-Qur'an Learning at Homeschooling Public Learning Center. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, 6(3), 537–547. <https://doi.org/10.31538/ndh.v6i3.1704>
- Saribanon, N., Siregar, M. A. P., Joshi, L. K., Zuhriansyah, & Rubyawan. (2020). Empowerment Program for Persons With Disabilities During the Covid-19 Pandemic : the Case of Natural. *Journal of Social Political Sciences*, 1(2), 129–143.
- Setiadi, D., Nurhayati, S., Ansori, Zubaidi, M., & Amir, R. (2023). Youth ' s Digital Literacy in the Context of Community Empowerment in an Emerging Society 5 . 0. *Society*, 11(1), 1–12. <https://doi.org/10.33019/society.v10i2.491>
- Smaragdina, A. ahmad, Nidhom, A. M., Soraya, U. D., & Fauzi, R. (2020). Pelatihan Pemanfaatan dan Pengembangan Bahan Ajar Digital Berbasis Multimedia Interaktif untuk Menghadapi Era Revolusi Industri 4.0. *Jurnal Karinov*, 3(1).
- Solihin, R. (2020). Pengembangan Media Pembelajaran Interaktif Tahfidz Al-Quran Di Sekolah Dasar. *Jurnal Asy-Syukriyyah*, 21(02), 154–163. <https://doi.org/10.36769/asy.v21i02.108>
- Suharyat, Y., Susilawati, T. E., Sikki, M. I., & Nurhayati, S. (2022). Online Learning Quality Evaluation in Higher Education During COVID-19 Pandemic. *Society*, 10(1), 207–219. <https://doi.org/10.33019/society.v10i1.406>
- Susanti, M., & Nurhayati, S. (2024). Exploring Digital Literacy Usage For Self-Directed Learning: Rural Adolescents' perspectives. *Jurnal Visi Ilmu Pendidikan*, 16(1).
- Susanto, Desrani, A., & Zamani, Z. A. (2021). Learning Tahfidz Al-Qur ' an During the Covid-19 Pandemic. *Jurnal Pendidikan Agama Islam*, 18(2), 257–272.
- Sutama, I. W., Astuti, W., Pramono, P., Ghofur, M. A., Sangadah, L., & others. (2021). Pengembangan E-Modul “Bagaimana Merancang dan Melaksanakan Pembelajaran untuk Memicu HOTS Anak Usia Dini melalui Open Ended Play” Berbasis Ncesoft Flip Book Maker. *SELING: Jurnal Program Studi PGRA*, 7(1), 91–101.
- Syahroni, M., Dianastiti, F. E., & Firmadani, F. (2020). Pelatihan Media Pembelajaran Berbasis Teknologi Informasi untuk Meningkatkan Keterampilan Guru dalam Pembelajaran Jarak Jauh. *International Journal of Community Service Learning*, 4(3), 170–178. <https://ejournal.undiksha.ac.id/index.php/IJCSL/article/view/28847>
- Tiarawati, P. V., Nurhayati, S., Hidayah, S. N., & Boriboon, G. (2023). Blended Learning Approach Implementation to Improve Adults' Tahsin Ability in the Digital Era. *Cendekia: Jurnal Kependidikan Dan Kemasyarakatan*, 21(2). <https://doi.org/http://dx.doi.org/10.21154/cendekia.v21i2.7111>
- Virmani, R., & Williamson, P. (2016). Lessons for Teacher Educators about Learning to Teach with

- Technology. In *Building Bridges* (pp. 77–90). SensePublishers. [https://doi.org/10.1007/978-94-6300-491-6\\_6](https://doi.org/10.1007/978-94-6300-491-6_6)
- Wasyik, T., & Hamid, A. (2020). Implementasi E-Learning Dalam Pembelajaran Alquran Era Covid-19 Di Sanggar Tahfidz Entrepreneur Krian Sidoarjo. *Edudeena : Journal of Islamic Religious Education*, 4(1), 13–24. <https://doi.org/10.30762/ed.v4i1.2194>
- Widyawati, E., & Nurhayati, S. (2023). Practical Implementation Strategies of Tartila Method for Improving Early Childhood ' s Al Qur ' an Reading Literacy. *Obsesi*, 7(6), 6687–6699. <https://doi.org/https://doi.org/10.31004/obsesi.v7i6.4616>
- Winarti, W., Nurhayati, S., Rukanda, N., Jabar, R., & Rohaeti, E. E. (2022). Analisis Kompetensi Digital Guru PAUD dalam Mengelola Pembelajaran Daring Anak Usia Dini. *Obsesi*, 6(6), 5621–5629. <https://doi.org/10.31004/obsesi.v6i6.3111>