Volume 5 Number 1 (2025)
January-June 2025
Page: 64-75

E-ISSN: 2798-1282
Initials: Absorbent Mind
DOI: 10.37680/absorbent_mind.v5i1.6940

Absorbent Mind
Journal of Psychology and Child Development

THE APPLICATION OF TECHNOLOGY-ENHANCED LEARNING IN THE DEVELOPMENT OF ISLAMIC RELIGIOUS EDUCATION IN EARLY CHILDHOOD

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Submitted: 20/09/2024 Revised: 13/11/2024 Accepted: 14/03/2025 Published: 24/04/2025

Abstract

This qualitative descriptive study explores the use of Technology-Enhanced Learning (TEL) in the development of Islamic Religious Education (PAI) for early childhood at PAUD Diantara Putro Melati Kasihan, Bantul, Yogyakarta. Data were collected through learning observations utilizing educational applications, animated videos, and interactive stories; in-depth interviews with the principal, PAI teachers, and parents; and documentation of technology-based policies and materials. The analysis followed the Miles and Huberman model (data reduction, narrative presentation, triangulation verification) to produce a comprehensive picture. The results showed that digital media—animated stories of the prophets and interactive applications—increased interest, understanding of Islamic values, and social interaction via Google Classroom and Zoom. Regular exposure to technology-based religious content also strengthened positive characters such as politeness and helping each other. However, limited devices, uneven internet access, and the potential for gadget addiction require close collaboration between schools and parents so that the use of technology is balanced and supports future PAI goals. The implementation of TEL has proven effective in developing PAI for early childhood.

Keywords Early Childhood; Islamic Religious Education; Technology-Enhanced Learning.

INTRODUCTION

Islamic Religious Education (PAI) in early childhood plays a strategic role in forming the foundation of moral, spiritual, and personality character that will guide the development of students throughout life. Under ideal conditions, early childhood PAI utilises a holistic approach that combines cognitive, affective, and psychomotor aspects simultaneously. Based on Mayer's multimedia cognitive theory, teaching materials designed with images, text, audio, and video can reduce children's cognitive load, strengthen information retention, and provide a rich context for the early understanding religious concepts (Feeley et al., 2023). In addition, the psychomotor aspect can be developed through interactive simulations, such as prayer or ablution movement tutorial videos, that allow children to learn by imitating movements and getting instant feedback. Meanwhile, the affective component is fulfilled by cultivating moral and spiritual values through narrating the prophet's story, daily prayers, and group discussions that foster empathy and respect for others (Farid, 2024).

However, conditions in the field—especially at PAUD Diantara Putro Melati Kasihan, Bantul, Special Region of Yogyakarta, during the research period from November 2022 to February 2023—show a much different reality. The technological facilities and infrastructure available in schools are still limited: only a few tablets and one projector are owned by PAUD, while internet access at students' homes varies in quality, and some even have no access. Teachers often encounter technical obstacles, so technology is only used as a complement: for example, playing a short video in one learning session and then using conventional methods again. On the other hand, parents' concerns about the potential for gadget addiction, which can reduce children's direct interaction and physical activity, add to the complexity of implementing Technology-Enhanced Learning (TEL) as the primary learning paradigm.

Previous studies have offered relevant findings to address these challenges. Research by (Al Atiyat, 2018; Lestari & Sari, 2025; Sinaga et al., 2024; Skulmowski & Xu, 2022) proves the effectiveness of multimedia cognitive theory at the primary education level, where material design that minimises cognitive load has been shown to improve student understanding. (Saleem et al., 2021; Shibina & Vidyapeetham, 2022; Sulikasmi et al., 2024; Syafila & A'yun, 2024) Underscore the importance of social interaction within the framework of Vygotsky's social-constructivism, where structured discussion and collaboration between peers enrich the meaning of learning. Furthermore, Martens et al. (2018), Rahma et al. (2024), Sabatino et al. (2024), and Tabaeeian et al. (2024) show that

animation of prophetic stories equipped with gamification elements, such as mission completion challenges and virtual rewards, can foster intrinsic motivation and interest in early childhood learning. These three patterns confirm that technology can improve understanding, engagement, and learning motivation. However, their research is limited to one or two aspects without testing comprehensive integration in early childhood education with limited infrastructure.

The novelty of this research is the synergistic application of three patterns—cognitive multimedia, social-constructivism, and mobile gamification—in one integrated TEL framework in PAUD Diantara Putro Melati Kasihan. In addition, this study adds a new dimension in the form of active collaboration between schools and parents, where parents are not only given information but also involved through short training on monitoring and accompanying children using educational applications at home. This approach aims to mitigate the risk of gadget addiction and overcome technology access constraints, while ensuring continuity of learning between the school and home environment. No previous study has examined this integrative model holistically in local early childhood education, so this study offers a conceptual and practical contribution to early childhood TEL and PAI.

This research describes how TEL can be designed and implemented through educational applications, animated videos, and interactive stories as an effective, inclusive, and sustainable PAI learning strategy in PAUD Diantara Putro Melati Kasihan. With a qualitative descriptive method, the research will capture the perspectives of school principals, PAI teachers, and parents about opportunities and challenges and record the dynamics of children's interactions in offline and online sessions. Data was collected through structured observations, in-depth interviews, policy documentation and technology-based teaching materials. The analysis follows Miles and Huberman's model—data redacting, narrative presentation, triangulation verification—to produce a rich and valid picture of TEL practices in a real-world context.

The importance of this research lies in the urgency of bridging the digital divide in early childhood education and presenting a PAI learning model that is adaptive to the times. Amid the global trend towards the digitalisation of education, this study is expected to produce practical recommendations for developing school policies, TEL-based curriculum design, and teacher training that can maximise the potential of technology while minimising risks. Thus, the implementation of PAI focuses on religious knowledge and developing 21st-century characters and skills, making millennial and Z children better prepared to face future challenges.

METHOD

This study uses a qualitative descriptive approach to describe the practice of Technology-Enhanced Learning (TEL) in Islamic Religious Education (PAI) learning for early childhood (Sugiyono, 2019). The research was conducted from November 2024 to February 2025 at PAUD Antara Putro Melati Kasihan, Bantul, Special Region of Yogyakarta. The subjects of the study include Principals as TEL policy designers, PAI teachers who apply technology in the learning process, and parents of students who provide perspectives on the impact of using technology at home. Primary data were obtained from three main sources: direct observation of the PAI learning process utilising educational applications, animated videos, and interactive stories in the classroom; in-depth interviews using structured guidelines with key informants such as principals, PAI teachers, and parents; and documentation of internal school policies alongside the technology-based teaching materials that have been implemented. Secondary data includes literature related to multimedia cognitive theory, social constructivism, and mobile gamification used for conceptual frameworks.

Data collection techniques include systematic participatory observation to record learning activities, in-depth interviews that are recorded and transcribed to capture the views and experiences of informants, as well as documentation studies in the form of school policy analysis, PAI syllabus, and digital materials. Each collection stage is equipped with field notes and researchers' reflections to ensure the richness and depth of the data. All data were analysed using the Miles and Huberman model—starting from data reduction (reducing, summarising, and grouping findings according to TEL categories), presenting data in the form of a structured descriptive narrative, to verification through triangulation of sources (observations, interviews, documentation) and techniques (comparison of qualitative data with literature) (Miles & Huberman, 2019). Thus, this study produces a comprehensive picture of the implementation of TEL in early childhood PAI and identifies supporting factors, barriers, and developmental recommendations.

FINDINGS AND DISCUSSION

Findings

This study revealed that educational applications—including interactive story applications, digital quizzes, and worship movement simulations—significantly increased children's enthusiasm and participation during PAI learning. Structured observations in the classroom showed that since the introduction of the application, the frequency of children asking questions, repeating material

through the media, and interacting with teaching content has increased by 60% compared to the pre-TEL period. Interviews with PAI teachers reinforced these findings: the teachers reported that children were faster at memorising short prayers and basic religious materials when combined with gamification elements such as points and levels, which made the learning process feel like play.

Using animated videos of prophetic stories and worship tutorials (prayer and ablution) was also effective through direct practical observation. The data noted that 85% of children can imitate ablution movements correctly after watching videos, while only about 40% perform movements according to standards in conventional methods. The results of in-depth interviews with the parents of students confirmed that the visualisation of step by step made the abstract concept of worship more concrete. Hence, the child felt more confident and motivated to practice it in the daily routine at home.

Social interaction and student collaboration also improved thanks to the Google Classroom platform and scheduled Zoom sessions. In the observed virtual group discussions, children shared learning experiences and had brief discussions about moral values; For example, they shared stories about how to help a struggling friend. As many as 70% of parents interviewed stated that their children have become more open and communicative in online classes and when playing with peers outside of school. This shows that TEL enriches the teaching content and strengthens children's social bonds and communication skills.

Although there are many benefits, this study identified significant obstacles through observations and interviews with schools. Device limitations—an average of one tablet per four students—result in limited access to digital media, so teachers have to schedule rotations of use. In addition, 40% of students' families reported having unstable internet connections, hindering smooth online sessions and triggering frustration for teachers and children.

School-initiated mitigation efforts—recorded through policy documentation and confirmation of interviews with principals—include brief training for parents on digital learning assistance and child screen time management. The positive response was reflected in follow-up interviews with parents, who reported an increased understanding of supervising children when using educational apps and decreased concerns about gadget addiction. With technical support from schools and active involvement of parents, the use of TEL is expected to be more optimal. These findings confirm that with adequate infrastructure, training, and close collaboration between schools and families, TEL can be a compelling, engaging, and sustainable PAI learning strategy for

early childhood.

Table 1. Summary of Findings, Verification, and Indicators

No.	Key Findings	Verification Methods	Percentage/Indicator
1	Increase children's participation with educational applications	Classroom observation	+60 % Engagement & Inquiry
2	Successful imitation of ablution movements through video	Observation of practices & interviews of parents	85% of impersonations are true (vs 40%)
3	Increased children's openness and communication	Virtual discussions (Google Classroom/Zoom) & parent interviews	70% of parents report an increase
4	Device and internet access issues	Observation & interview of teachers	1 tablet per 4 students; 40 % unstable connection
5	Effectiveness of parent training	Documentation & interviews of principals and parents	80% of parents feel more prepared to monitor

Based on Table 1, several key findings highlight the effectiveness of using educational applications in children's learning processes. Children's participation increased significantly by 60%, as evidenced by classroom observations showing high levels of engagement and curiosity. Observations of practice and interviews with parents revealed that 85% of children successfully imitated ablution movements from video demonstrations, compared to only 40%. Additionally, children's openness and communication improved, with 70% of parents reporting noticeable progress based on virtual discussions and interviews. However, challenges were found in device and internet access, with only one tablet available for every four students and 40% experiencing unstable internet connections. Nevertheless, parent training proved effective, with 80% of parents feeling more prepared to monitor their children's learning, as documented through interviews with school principals and parents.

Discussion

Technology in learning Islamic Religious Education (PAI) in PAUD certainly brings various benefits, including increasing children's attractiveness, interaction, and understanding of the material presented. As explained in Richard E. Mayer's theory of cognitive multimedia, using different types of media (images, text, sounds, videos) in the design of materials can simplify the learning process by reducing excessive cognitive load, so children can more easily receive the information conveyed (Mayer, 2024; Rudolph, 2017). Meanwhile, the application of Vygotsky's theory, which emphasises the importance of social interaction in learning, is also very relevant. Learning the Islamic religion becomes more dynamic by using digital platforms that allow

collaboration, such as Google Classroom or Zoom (Hermawan & Nurpalah, 2025; Sulastri & Ismail, 2025a). Social interaction between teachers and children, or even between fellow students, can take place even if they are in different locations, thus enriching their learning experience. In addition, interviews with the Principal of PAUD, among Putro Melati and teachers at the school, provided a real picture of the application of technology in Islamic religious learning. They utilise technology-based apps, animated videos, and interactive stories to convey religious values in a fun way (Margawati & Nurcahyo, 2024; Rasit et al., 2024). Not only does this make the material easier to understand, but it also helps foster children's interest in learning religion through a more visual and interactive way. Some of the additions that can be considered for further development in this context are:

1. Utilisation of more diverse media: Besides educational videos and applications, audio-based interactive podcasts or stories can provide a richer variety for children to understand Islam's teachings.
2. Further training for teachers: For technology to be optimal, ongoing training for teachers on how to design and use technology effectively in Islamic religious learning is essential.
3. Technology-based learning evaluation: Although quiz apps such as Kahoot or Quizizz are already implemented for learning evaluation, there needs to be an emphasis on measuring a deeper understanding of Islamic religious values, not just cognitive knowledge.

Overall, the application of TEL in early childhood education, based on theories such as Multimedia Cognitive and Social-Constructivism, has been proven to positively impact the quality of Islamic religious learning in early childhood. This proves that technology can effectively teach religious values in an engaging, relevant, and time-appropriate way. The use of technology in Islamic religious education, primarily through the Technology-Based Learning (TEL) approach, has significantly impacted how students understand religious teachings (Malla et al., 2023; Masdul et al., 2024). Applying Multimedia Cognitive Theory (Mayer) and Social-Constructivism Theory (Vygotsky) in the context of Islamic religious learning can create more effective and holistic methods. Multimedia Cognitive Theory provides the basis for designing learning materials that involve different types of media (images, text, sound, and video), which can reduce the cognitive load on children and enrich their understanding (Akbar et al., 2023; Muharrani & Murhayati, 2025).

Meanwhile, Social-Constructivist Theory emphasises the importance of social interaction in building knowledge. This can be realised by encouraging discussion and collaboration between

children, as well as between children and teachers, which is increasingly facilitated by technology. The application of TEL in Islamic religious education has a significant positive impact on strengthening student involvement in learning (Pandia & Drew, 2023). Technology allows teachers to present learning materials more interestingly, such as educational videos about worship, making religion easier to understand. Children learn about theory and can see firsthand religious practices, such as how to perform ablution or prayer, through fun visual media (Nurdinar et al., 2024; Sulastri & Ismail, 2025b). This increases students' understanding of Islam more concretely and engagingly, and helps them remember and master the material better.

In addition, the use of gadgets in learning the Islamic religion also plays a role in increasing children's creativity. Learning apps that incorporate elements of educational games, such as puzzles or Islamic songs, make learning more fun and interactive (Azizah & Irsyadi, 2020; Purba & Damanik, 2025). It can also strengthen children's communication and social skills, as they can interact with apps, friends, and adults during learning activities. Technology in learning provides space for children to socialise and learn together, even in a distance learning situation, so they stay connected with their friends and teachers. However, the negative impact of technology in education also needs to be considered. Too much time spent using gadgets can lead to addiction, where children become more introverted and reduce their direct social interactions (Ghofurrohim et al., 2023).

Excessive use of technology also risks interfering with children's concentration, which can affect their learning achievement in other areas, such as traditional learning that does not involve technology. In addition, there is also the potential for health problems such as eye damage due to constant exposure to gadget screens, as well as the threat *of cyberbullying* that can interfere with children's psychological development. Challenges in the application of technology in education are also often related to device limitations and uneven internet access (Munir & Su'ada, 2024; Subroto et al., 2023). Not all families have adequate devices; internet access is still an obstacle in some areas. This is a big challenge in maximising the potential of TEL for all children, especially those living in areas with limited infrastructure. The principal in the interview expressed these concerns and emphasised the need for collaboration between schools and parents to ensure that children get adequate access and use technology wisely (Masfufah & Darmawan, 2023).

From a parent's perspective, the use of technology in Islamic religious learning has been proven to have a positive impact, especially in increasing children's interest in learning and strengthening their understanding of spiritual teachings (Chanifah et al., 2021; Diana & Azani, 2024).

Parents revealed that their children are more likely to understand the movements of prayer and ablution after watching learning videos at school. In addition, they also feel a positive development in their children's character, and they begin to apply Islamic moral values in daily life, such as respecting parents and maintaining cleanliness (Kildare & Middlemiss, 2017). However, parents are also aware of the importance of strict supervision of the use of technology so that children can use it wisely without neglecting their social and physical activities. So, the study results show that although there are challenges in implementing technology in Islamic religious education, the benefits are seen in improving children's spiritual understanding, social skills, and character (Dacholfany & Hasanah, 2021; Winarti, 2025). Parents hope that with proper supervision, the use of technology can continue to grow and access can be evenly distributed, so that the benefits of technology-based learning can be enjoyed by more children in the future.

CONCLUSION

The use of technology in Islamic Religious Education (PAI) learning in early childhood education, through the Technology-Based Learning (TEL) approach, has been shown to significantly increase children's attractiveness, understanding, and creativity—in line with Mayer's Multimedia Cognitive Theory which emphasises the reduction of cognitive burden through images and videos, as well as Vygotsky's Social-Constructivism framework which emphasises social interaction through platforms such as Google Classroom and Zoom. The Principal of PAUD, Putro Melati, and the teacher team have successfully utilised applications, animated videos, and interactive stories to convey religious values in a fun and meaningful way, so that students are more enthusiastic and able to internalise religious teachings better. However, excessive use of technology has the potential to lead to addiction, reduce the quality of face-to-face interactions, and interfere with concentration, in addition to the challenge of equal access to devices and internet connections. Therefore, it is recommended that the implementation of TEL in PAUD be equipped with a balanced use policy, strict supervision from educators and parents, and digital literacy training for teachers and students to maximise the benefits of technology while minimising its negative impacts.

REFERENCES

Akbar, M. R., Ningtyas, S., Aziz, F., Rini, F., Putra, I. N. A. S., Adhicandra, I., Novita, R., Metra, R., & Junaidi, S. (2023). *MULTIMEDIA: Teori dan Aplikasi dalam Dunia Pendidikan*. PT. Sonpedia Publishing Indonesia.

Al Atiyat, A. M. (2018). The Effect of Multi-Media Instructional Design Based on Sweller's Theory on Reducing Cognitive Load and Developing Scientific Concepts Among Deaf Primary Students. *Journal of Educational and Psychological Studies [JEPS]*, *12*(4), 672–685.

Azizah, H., & Irsyadi, F. Y. (2020). Educational Game for Learning the Arabic Language in A Modern Islamic Boarding School. *Jurnal RESTI (Rekayasa Sistem Dan Teknologi Informasi)*, *4*(3), 489–496.

Chanifah, N., Hanafi, Y., Mahfud, C., & Samsudin, A. (2021). Designing a Spirituality-Based Islamic Education Framework for Young Muslim Generations: A Case Study from Two Indonesian Universities. *Higher Education Pedagogies*, *6*(1), 195–211.

Dacholfany, M. I., & Hasanah, U. (2021). *Pendidikan Anak Usia Dini Menurut Konsep Islam*. Amzah.

Diana, A., & Azani, M. Z. (2024). The Concept and Context of Islamic Education Learning in the Digital Era: Relevance and Integrative Studies. *Profetika: Jurnal Studi Islam*, *25*(01), 33–44.

Farid, A. (2024). Internalisasi Karakter Pendidikan Islam di Madrasah Ibtidaiyyah Wali Songo Asy-Syirbaany Tangerang Selatan. *Prosiding Seminar Nasional Pendidikan FKIP Universitas Lampung*, 142–155.

Feeley, T. H., Keller, M., & Kayler, L. (2023). Using Animated Videos to Increase Patient Knowledge: A Meta-Analytic Review. *Health Education & Behaviour*, *50*(2), 240–249.

Ghofururrohim, N. M., Wicaksono, R. N., & Faristiana, A. R. (2023). Pengaruh Smartphone terhadap Anak Usia Dini. *Education: Jurnal Sosial Humaniora Dan Pendidikan*, *3*(2), 129–146.

Hermawan, N., & Nurpalah, E. (2025). Pemanfaatan Berbagai Sumber Belajar Dalam Meningkatkan Efektivitas Pembelajaran di Lingkungan Pendidikan Formal. *Nashr Al-Islam: Jurnal Kajian Literatur Islam*, *7*(1).

Kildare, C. A., & Middlemiss, W. (2017). Impact of Parents' Mobile Device Use on Parent-Child Interaction: A Literature Review. *Computers in Human Behaviour*, *75*, 579–593.

Lestari, W., & Sari, S. P. (2025). Penerapan Media Video untuk Meningkatkan Kemampuan Kognitif Siswa di Sanggar Bimbingan kepong, Kuala Lumpur Malaysia. *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, *5*(2), 1096–1106.

Malla, H. A. B., Hamka, Haryani, A., Abu, A., & Nur, A. (2023). Teachers' Digital Literacy Ability to Improve Islamic Religion Education Learning in Islamic Boarding Schools. *International Journal of Educational Reform*, 10567879231211288.

Margawati, E., & Nurcahyo, A. C. (2024). *Learning Christian Religious Education (CRE) Through Online Games*. Amerta Media.

Martens, M., Rinnert, G. C., & Andersen, C. (2018). Child-centred design: Developing an Inclusive Letter-Writing App. *Frontiers in Psychology*, *9*, 2277.

Masdul, M. R., Firmansyah, E., Kuliawati, K., & Suardi Wekke, I. (2024). Transformation of Islamic Religious Education Through the Use of E-Learning and Interactive Technology. *ScienceOpen Preprints*.

Masfufah, M., & Darmawan, D. (2023). The Role of Parents in Preventing Gadget Addiction in Early Childhood. *International Journal of Service Science, Management, Engineering, and Technology*, *3*(3), 47–51.

Mayer, R. E. (2024). The Past, Present, and Future of the Cognitive Theory of Multimedia Learning. *Educational Psychology Review*, *36*(1), 8.

Miles, M. B., & Huberman, A. M. (2019). Analisis Data Kualitatif Buku Sumber Tentang Metode-

Metode Baru (Terjemahan). *Penerbit Universitas Indonesia*.

Muharrani, M., & Murhayati, S. (2025). Optimalisasi Penggunaan Multimedia Sebagai Sumber dan Bahan Pembelajaran Pendidikan Agama Islam (PAI). *Al-Mutharahah: Jurnal Penelitian Dan Kajian Sosial Keagamaan*, *22*(01), 849–862.

Munir, M., & Su'ada, I. Z. (2024). Manajemen pendidikan Islam di era Digital: Transformasi dan Tantangan Implementasi Teknologi Pendidikan. *JIEM: Journal Of Islamic Education and Management*, *5*(1), 1–13.

Nurdinar, D., Alawiyah, T., Amelia, I., Supriatna, R., Niaga, A. H., Majid, A., Nurjanah, K., Halis, P. L., Alamsyah, K., & Gumilar, Y. (2024). Edukasi Tata Cara Wudhu dan Shalat sebagai Sarana Pembentukan Karakter Religius Siswa SD Palasari 3 Bandung. *Bayani*, *4*(2), 129–138.

Pandia, W. S. S., & Drew, A. (2023). Identifying and solving Islamic religious education challenges for special needs children. *Assyfa Journal of Islamic Studies*, *1*(2), 178–190.

Purba, L., & Damanik, N. K. (2025). Efforts to Improve the Ability to Recognise Hijaiyah Letters through Interactive Game Methods at SD Negeri 095231 Puli Buah. *Journal of Media and Learning Technology*, *1*(1), 264–278.

Rahma, R., Halim, F., Rafli, R., Kharizmi, M., & Putri, B. (2024). Analisis Pengaruh Intensitas Menonton Film Kartun Terhadap Motivasi Belajar Anak Usia Dini. *Kumarottama: Jurnal Pendidikan Anak Usia Dini*, *4*(1), 33–41.

Rasit, R. M., Zamri, N. A. K., Rahim, N. N., & Anggrayni, D. (2024). Developing a Marketing Strategy for Shariah Compliant Content Through the Concept of Transmedia Storytelling in Digital Media. In *Business Sustainability with Artificial Intelligence (AI): Challenges and Opportunities: Volume 1* (pp. 327–345). Springer.

Rudolph, M. (2017). Cognitive Theory of Multimedia Learning. *Journal of Online Higher Education*, *1*(2), 1–10.

Sabatino, J. A., Hidayah, Z., Sinaga, W. A. B., Sianturi, H. A., Sefriando, R., Chayyira, I. A., Nazhifah, Q., Huda, M., & Nisa, S. K. (2024). Revitalisasi Motivasi Intrinsik Belajar Anak di Desa Kuala Keritang Melalui Fun Learning. *Jurnal Pengabdian Masyarakat Bangsa*, *2*(7), 2684–2692.

Saleem, A., Kausar, H., & Deeba, F. (2021). Social Constructivism: A New Paradigm in Teaching and Learning Environment. *Perennial Journal of History*, *2*(2), 403–421.

Shibina, K. M., & Vidyapeetham, A. V. (2022). Social Constructivism: A Fundamental Approach towards Oral Development. *Journal of Russian and Comparative Literary Studies*, *22*, 375–380.

Sinaga, D. Y. S. D. Y., Sinaga, L. S., Saragih, D. K., Sembiring, M., Purba, R., Saragih, W., Silaen, M., & Samosir, E. (2024). Efektivitas Penggunaan Media Audio Visual Terhadap Peningkatan Hasil Belajar Siswa dalam Pembelajaran Matematika Sekolah Dasar Kelas Tinggi. *J-CEKI: Jurnal Cendekia Ilmiah*, *4*(1), 2389–2397.

Skulmowski, A., & Xu, K. M. (2022). Understanding Cognitive Load in Digital and Online Learning: A New Perspective on Extraneous Cognitive Load. *Educational Psychology Review*, *34*(1), 171–196.

Subroto, D. E., Supriandi, S., Wirawan, R., & Rukmana, A. Y. (2023). Implementasi Teknologi dalam Pembelajaran di Era Digital: Tantangan dan Peluang bagi Dunia Pendidikan di Indonesia. *Jurnal Pendidikan West Science*, *1*(07), 473–480.

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alphabet.

Sulastri, S., & Ismail, I. (2025a). Penerapan Technology-Enhanced Learning dalam Pengembangan Pendidikan Agama Islam pada Anak Usia Dini: Implementation of Technology-Enhanced Learning in the Development of Islamic Religious Education in Early Childhood. *Absorbent Mind*, *5*(1), 41–54.

Sulastri, S., & Ismail, I. (2025b). Penerapan Technology-Enhanced Learning dalam Pengembangan

Pendidikan Agama Islam pada Anak Usia Dini: Implementation of Technology-Enhanced Learning in the Development of Islamic Religious Education in Early Childhood. *Absorbent Mind*, *5*(1), 41–54.

Sulikasmi, S., Noviani, D., & Arjaya, R. (2024). Model Pembelajaran Berbasis Permainan pada Perkembangan Kognitif Anak Usia Dini. *Jurnal Ilmu Pendidikan Islam*, *22*(4), 314–329.

Syafila, A. E., & A'yun, D. Q. (2024). Analisis Eksplorasi Konsep Pendidikan Konstruktivis dalam Pembelajaran Berbasis Proyek. *Jurnal Media Akademik (JMA)*, *2*(12).

Tabaeeian, R. A., Rahgozar, S., Khoshfetrat, A., & Saedpanah, S. (2024). Can Gamification Affect the Effectiveness of Advertising on Social Media? *Journal of Communication Management*, *28*(3), 404–422.

Winarti, I. (2025). Pemanfaatan Gadget Untuk Meningkatkan Minat dan Pemahaman Siswa dalam Pendidikan Agama Islam. *Sasana: Jurnal Pendidikan Agama Islam*, *3*(2), 185–191.