

## PROMOTE INNOVATION IN MADRASAH THROUGH THE USE OF EDUCATIONAL TECHNOLOGY

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### Abstract

*The research aims to explore and evaluate the application of educational technology in promoting learning innovation in the madrasah. With the increasing importance of technology integration in the world of education, madrasahs also need to adapt teaching methods by integrating relevant digital tools and resources. The research digs into a range of strategies that can be applied by the madrasah to integrate educational technology effectively, including teacher training, developing technological infrastructure, revising curricula, and applying project-based learning using technology. The study uses a qualitative approach through literary research methods, by reviewing and analyzing previous studies, reports, and data on similar topics. Research results show that the use of educational technology in the madrasah has significant potential to drive innovation in the teaching learning process. The training and professional development of teachers is identified as a key factor in the successful implementation of technology, with adequate technological infrastructure as an essential prerequisite. The integration of curricula with digital resources and the implementation of technology-supported project-based learning strategies has proven to enhance student engagement and deepen their understanding of the subject matter. However, challenges such as limited access to technological resources, lack of effective teacher training, and resistance to change in traditional learning practices are also identified as obstacles to be overcome.*

**Keywords:** *Innovation; Madrasah; Education Technology*

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## **A. Introduction**

The rapid development of information and communication technology (ICT) has changed many aspects of life, including in the field of education (Sitopu et al., 2024; Guna et al., 2024). Digital transformation with advances such as high-speed internet, mobile devices, digital applications, and online learning platforms have opened up new opportunities to enrich learning experiences (Siskandar, 2020). Modern educational technology now enables teaching to be more flexible, collaborative, and accessible by anyone from anywhere (Hairiyanto et al., 2024). This creates extensive opportunities for educational institutions to redefine their teaching methods and to adapt curricula to the needs of the growing global market (Abubakari, 2021).

Thus, information and communications technology has opened up a great opportunity to improve the quality of education through more innovative and interactive teaching methods, including in Islamic educational institutions such as the madrasah, where the integration of educational technology has great potential in improving learning quality and producing graduates who are ready to face the challenges of the future (Ali et al., 2024; Tubagus et al., 2023; Aslan & Shiong, 2023). Madrasah is required not only to be aware of these changes, but also to be proactive in adopting and integrating ICTs so as to improve the quality and relevance of the education given (Santosa & Jazuli, 2022).

Madrasah, as an integral part of the national education system, has a strategic role in shaping the character and competence of students according to the needs of their time. The need to improve the quality of education in the madrasah is becoming increasingly important amidst global competition and the demands of the digital age (Megawati et al., 2023). Madrasah, as an Islamic educational institution, is not only sought to produce graduates who are strong in religious knowledge, but also able to compete in academic fields and practical skills relevant to the needs of the times. Integration between religious and general education, along with the application of innovative and relevant teaching methodologies, is the key to improving the quality of education in the madrasah (Siminto et al., 2024). It requires improved curriculum quality, learning methods, teacher competence, as well as adequate support facilities to support effective learning and provide holistic educational experiences to students, so that they can grow into noble, intellectual individuals, and ready to face future challenges (Iqbal et al., 2023).

However, challenges arise when adaptation to educational technology in madrasas often lags behind other educational institutions (Nurdiana et al., 2023; Sarmila et al., 2023). The scope of educational technology adaptation in some madrasas is still low, influenced by various factors including technological infrastructure constraints, limited budget allocation, and teacher competence in utilizing unequal technology (Ross, 2022). As a result, these madrasas are often lagging behind in adopting more modern and effective learning methods that have been widely applied in other educational institutions. Other constraints such as lack of training and technical support, as well as resistance to new changes among madrasah educators and managers, have also contributed to the slow

penetration of educational technology in the Madrasah environment (Suhid et al., 2021). All of this is a significant obstacle to be overcome to ensure that the madrasah is able to adapt to the needs of contemporary education and prepare its pupils for the face of a global digital age (Haddar et al., 2023).

On the other hand, the successful integration of technology into the learning process can drive innovation in the madrasah. Learning innovation through the use of technology is not only related to more attractive and effective teaching, but also to the development of creativity, critical thinking skills, as well as the readiness of students to face the challenges of the digital age (Zen et al., 2023). Therefore, it is important to encourage innovation in the madrasah through the use of educational technology, given its enormous potential to improve the quality of learning and overall educational outcomes (Rohman et al., 2023).

The research aims to dig deeper into how educational technology can drive innovation in the madrasah, the factors that support and hinder, and the strategies that can be applied to overcome such barriers. Thus, the research is expected to provide meaningful recommendations for madrasahs to use educational technologies in creating innovations that are beneficial for improving the quality of education.

## **B. Method**

The method of research carried out on this research is literature. Literature research method is an approach in research that relies on documentation sources as its primary data, such as books, scientific journals, articles, and other written sources (Ratislavová & Ratislav, 2014; Richardson, 2018). This process involves the collection, review, and analysis of previous publications related to research topics in order to build a deeper understanding of the phenomena studied. Literary research can be used either as an independent approach in a study or as part of a broader research methodology to support the formation of a theoretical framework or a research hypothesis (Antin et al., 2015; Punch, 2013). The course of research on the study of literature includes several steps such as identification of relevant sources of information, systematic collection, critical evaluation of material found, and synthesis of information to produce new understanding. The data collection technique can be through keyword searches in scientific databases and digital libraries. The primary purpose is to identify, study, and integrate published research results on a problem without having to collect primary data directly (Adhabi & Anozie, 2017; Champe & Kleist, 2003).

## **C. Finding and Discussion**

### **The use of educational technology for learning innovation in Madrasah**

Educational technology is a field of study and practice involving the design, development, utilization, management, and evaluation of learning processes and resources to improve the efficiency and effectiveness of education (Purba et al., 2020). This definition

extends to the use of hardware and software, pedagogical methods and practices, and learning and teaching processes supported by technological tools (Mesra et al., 2023). The essence of education technology is the theoretical and practical application of the concept of educational psychology in the development of learning tools or media, as well as the use of information technology to support and enhance learning at all levels of education. (Arif, 2012; Tuhuteru et al., 2023; Aslan & Pong, 2023)

In practice, educational technology integrates tools such as computers, tablets, learning software, learning management systems (LMS), e-learning platforms, and online resources to enable a more dynamic and interactive learning environment (Nurdyansyah, 2017). Its use aims to create a learning experience that combines visual, audio, and kinesthetic elements, adapts to a variety of student learning styles and opens the door to an unlimited, practical resource of science. Through education technology, distance learning and open education are made possible, helping reach a wider learning population and democratizing access to quality education (Miarso, 2004).

Digital learning refers to an educational process that utilizes digital tools and resources – such as the Internet, multimedia, interactive applications, and electronic devices – to facilitate access to educational content, interaction between pupils and teachers, and online evaluation and feedback (Astuti et al., 2023). Through this method, learning is no longer confined to physical classrooms, allowing educators and students to participate in the teaching learning process from anywhere and anytime. The focus of digital learning is not only on disseminating information, but also developing critical, collaborative, and self-reliant skills that students are expected to equip for success in the 21st century and make the learning process more exciting, interactive, and relevant to the needs and challenges of the age. It also affects learning in the madrasah (Azis, 2019).

The use of educational technology in the madrasah has brought a wave of innovation in the learning process. Technologies such as computers, the Internet, and learning applications are becoming essential tools in providing more diverse learning resources and more innovative teaching methods (Okra & Novera, 2019). In the context of the madrasah, educational technology not only helps improve the quality of academic learning but also supports the integration of religious values in a more interactive and attractive way for students. This includes the use of multimedia in the teaching of Islamic values, the digital Al-Quran application to facilitate the learning of fables, and an online learning platform that enables interaction between students and teachers in a virtual environment (Nana & Surahman, 2019).

One of the significant innovations is the implementation of virtual classrooms and e-learning, which allows learning to be unlimited by physical space and time. This is especially beneficial in the face of the COVID-19 pandemic, where face-to-face learning becomes limited (Monahan et al., 2008). Madrasah, which adopts an e-learning platform, is able to continue teaching activities with minimal disturbance, ensuring the continuity of education for its students. Online learning modules, interactive videos, and online quizzes

are some examples of material that can be used to keep students engaged in learning (Salvat, 2018).

Besides, educational technology also opens the door to more diverse and fair assessment methods. With digital tools and applications, teachers can design judgments that not only focus on learning but also students' analytical skills, creativity, and critical thinking skills (Beux & Fieschi, 2007). Features such as peer-to-peer assessment and self-assessment in e-learning applications facilitate self-reflection and a deeper understanding of the material studied. This is in line with the purpose of Islamic education which not only focuses on knowledge but also the formation of student character (Violante & Vezzetti, 2015).

The use of educational technology in the madrasah also encourages broader collaboration between students, teachers, and parents. Digital communication platforms and learning management systems provide efficient and transparent communication channels, facilitating sharing of learning-related resources, discussions, and feedback. It helps build a dynamic learning community, where all elements are actively involved in the learning process (Franceschi et al., 2009). Thus, the use of educational technology in the madrasah is not only a means to improve academic quality but also as a medium to foster solidarity and cooperation in order to a more holistic educational goal (Abdelaziz et al., 2014).

Therefore, the use of educational technology in the madrasah has brought a significant shift towards learning innovation. This includes increased access to more diverse learning materials, the implementation of innovative teaching methods, and the provision of a more flexible learning environment through virtual classrooms and e-learning. Educational technology has also expanded assessment methods to better accommodate the student's diverse abilities and strengthen character formation through a holistic learning approach. More than that, educational technology facilitates closer collaboration between students, teachers, and parents, building a strong and integrated learning community. Thus, the use of educational technology in the madrasah not only supports the achievement of academic goals but also contributes to the social and spiritual development of students, ensuring a comprehensive and relevant education to the challenges of the times.

### **Factors that support and hinder the use of educational technology in Madrasah**

Factors Supporting the Use of Educational Technology in Madrasah consist of; First, Advancement of Technology Infrastructure: Adequate technological infrastructure becomes an important factor supporting the use of educational technology in madrasah. The availability of hardware such as computers, projectors, and a stable internet connection is a strong basis for adopting a variety of digital learning applications and platforms. Good infrastructure facilitates the integration of technology into the teaching

learning process, enables the use of multimedia, and access to extensive online learning resources (Megawati et al., 2023; Ross, 2022).

Second, Teacher Skills and Preparedness: Teachers who have the skills and willingness to use educational technology are another key factor. Teacher training in information and communication technology increases their confidence in integrating technology into the curriculum. Together with the motivation and creativity of teachers in using it, it can produce a rich and dynamic learning experience for students (Dariyanto & Wulandari, 2020; Kultsum et al., 2021).

Third, Flexible Curriculum: The development of a flexible and adaptive curriculum to new technologies enables a more natural integration of technology into the learning process. Curricula that support the use of technology facilitate innovation in teaching and evaluation methods, which makes the material more interesting and relevant to the needs of students of today (Mulia, 2022; Supartin, 2023).

As for, the Impeding Factors of the Use of Educational Technology in Madrasah, consist of; First, Resource Limits: Limited Resources becomes one of the main obstacles. Madrasahs in remote areas or with limited funding may face difficulties in providing adequate technological infrastructure. Measures like funding, both from the government and donations from others, are becoming crucial to overcoming these obstacles (Kultsum et al., 2021; Rahayu, 2023).

Second, Resistance to Change: The resistance to change from some of the parties involved, including older teaching staff or the local community, can be a psychological barrier. Discomfort with new technologies and lack of confidence in using digital tools can complicate the process of technology adoption. Adequate training and a gradual approach to change can increase acceptance of technology (Supartin, 2023).

Thus, the use of educational technology in the madrasah is supported by various factors such as infrastructure progress, teacher skills and readiness, as well as a flexible curriculum. However, challenges such as resource constraints and resistance to change also require attention. Solutions such as sustainable funding, teacher training, and the development of a curriculum that adapts to technological progress are some of the steps that can be taken to overcome these obstacles. Through these efforts, madrasahs can maximize the benefits of educational technology in creating innovative, interactive, and relevant learning experiences for students.

### **Use of Strategy in terms of innovation in Madrasah through the use of educational technology**

Educational Technology Integration Concrete Strategy consists of; First, Teacher Training and Professional Development: An essential initial step is to provide training and professional development for teachers related to educational technology. This type of program aims to sharpen the technical skills of teachers in implementing digital tools in learning and using them to enrich the learning material. This training can also include

blended learning methods, which combine traditional and digital teaching, as well as the use of management learning platforms (LMS) to design interactive courses (Santosa & Jazuli, 2022).

Second, Adequate Technology Infrastructure: Building or upgrading the technology infrastructure in the madrasah is an important strategy. This includes investments in hardware such as computers, tablets and interactive tablets, as well as ensuring stable and fast internet access. With adequate infrastructure, students and teachers can more easily access digital learning resources, e-learning platforms, and online collaborative tools (Dahlinar et al., 2023).

Third, Curriculum Integration with Technology: Revise and rearrange curricula to integrate technology effectively. It involves alignment of the content of the lesson with digital tools and resources, ensuring that technology is not only used as a complement, but as an integral part of the learning process. The use of educational applications, educational games, and digital simulations can enrich the learning experience and help students understand concepts better (Iqbal et al., 2023; Abdelaziz et al., 2014).

Fourthly, Promoting Student Engagement with Technology: This strategy focuses on empowering students to become active participants in the learning process with the help of technology. This can be achieved through technology-based projects, the use of e-portfolios for self-reflection and evaluation, as well as using forums and online collaboration platforms to facilitate discussion among students. Teaching digital literacy skills is also important to ensure that students can search, evaluate, and use information efficiently (Abubakari, 2021).

Fifth, Adopting a Project-Based Learning Approach: Implementing a project-based learning approach (PjBL) that utilizes technology to solve real-world problems can enhance student engagement and develop 21st-century skills. It allows students to work in groups, using technology for research, collaboration, and presentation of their work, thus deepening their understanding through the practical application of the concepts taught in class (Herzog et al., 2020).

Concrete strategies to integrate educational technology into learning in the madrasah rely on several key pillars, namely training and professional development of teachers, improvement of technological infrastructure, revision of curricula to incorporate technology, encouraging student engagement with technology, and implementation of project-based learning approaches. With the effective implementation of these strategies, the madrasah can drive innovation and improve the quality of education, preparing students with the skills needed to thrive in the digital age.

## **E. Conclusion**

Boosting innovation in the madrasah through the use of educational technology requires comprehensive efforts to integrate digital tools and practices into the education system. Continued professional development for teachers not only improves their

technical skills, but also gives them the confidence to experiment and adopt innovative teaching methods. A strong technology infrastructure serves as a foundation that enables access and maximum use of technology, while a curriculum integration tailored to digital resources ensures that technology is integrated in a meaningful and relevant way. Student involvement is key, where they are encouraged to become active students through the use of technology for exploration and collaboration. A project-based learning approach supported by technology offers opportunities for students to tackle real-life problems, deepen their understanding of the material, and develop critical skills. In this way, innovative changes in the madrasah education system not only prepare students for a digital-based future but also improve the quality and effectiveness of the education they receive.

## F. Bibliography

- Abdelaziz, M. A., Alaa El Din, M., & Senousy, M. B. (2014). Challenges And Issues In Building Virtual Reality-Based E-Learning System. *International Journal Of E-Education, E-Business, E-Management And E-Learning*, 4(4), 320.
- Abubakari, M. S. (2021). Information And Communication Technology Acceptance In Madrasa Education: Religious' Perspective In Tanzania. *International Journal Of Social Sciences & Educational Studies*, 8(3), 129.
- Adhabi, E., & Anozie, C. B. (2017). Literature Review For The Type Of Interview In Qualitative Research. *International Journal Of Education*, 9(3), 86-97.
- Ali, M., Aini, M. A., & Alam, S. N. (2024). Integrating Technology In Learning In Madrasah: Towards The Digital Age. *Indonesian Journal Of Education (Injoe)*, 4(1), Article 1.
- Antin, T. M., Constantine, N. A., & Hunt, G. (2015). Conflicting Discourses In Qualitative Research: The Search For Divergent Data Within Cases. *Field Methods*, 27(3), 211-222.
- Arif, M. (2012). *Teknologi Pendidikan*. Iain Kediri Press. [Http://Repository.Iainkediri.Ac.Id/680/](http://Repository.Iainkediri.Ac.Id/680/)
- Aslan, A., & Pong, K. S. (2023). Understanding The Trend Of Digital Da'wah Among Muslim Housewives In Indonesia. *Fikroh: Jurnal Pemikiran Dan Pendidikan Islam*, 16(1), Article 1. <https://doi.org/10.37812/Fikroh.V16i1.681>
- Aslan, A., & Shiong, P. K. (2023). Learning In The Digital Age Full Of Hedonistic Cultural Values Among Elementary School Students. *Bulletin Of Pedagogical Research*, 3(2), 94. <https://doi.org/10.51278/Bpr.V3i2.515>
- Astuti, S. E. P., Aslan, A., & Parni, P. (2023). Optimalisasi Peran Guru Dalam Proses Pembelajaran Kurikulum 2013 Di Madrasah Ibtidaiyah Swasta. *Sittah: Journal Of Primary Education*, 4(1), Article 1. <https://doi.org/10.30762/Sittah.V4i1.963>
- Azis, T. N. (2019). Strategi Pembelajaran Era Digital. *The Annual Conference On Islamic Education And Social Science*, 1(2), Article 2.
- Beux, P. L., & Fieschi, M. (2007). Virtual Biomedical Universities And E-Learning. *International Journal Of Medical Informatics*, 76(5), 331-335. [https://doi.org/10.1016/S1386-5056\(07\)00060-3](https://doi.org/10.1016/S1386-5056(07)00060-3)
- Champe, J., & Kleist, D. M. (2003). Live Supervision: A Review Of The Research. *The Family Journal*, 11(3), 268-275.

- Dahlinar, D., Nasution, W. N., & Daulay, A. F. (2023). Islamic Leading School Innovation (Study Of Strategies To Improve The Quality Of Islamic Schools In North Sumatra). *Edukasi Islami: Jurnal Pendidikan Islam*, 12(03), Article 03. <https://doi.org/10.30868/Ei.V12i03.5161>
- Dariyanto, M., & Wulandari, F. (2020). School Leadership To Improve The Education Quality Of Madrasah (A Case Study At State Madrasah Tsanawiyah Sragen Indonesia). *European Journal Of Molecular And Clinical Medicine*, 7(7), 411-419.
- Franceschi, K., Lee, R. M., Zanakis, S. H., & Hinds, D. (2009). Engaging Group E-Learning In Virtual Worlds. *Journal Of Management Information Systems*, 26(1), 73-100. <https://doi.org/10.2753/Mis0742-1222260104>
- Guna, B. W. K., Yuwantinaingrum, S. E., Firmansyah, S, M. D. A., & Aslan. (2024). Building Morality And Ethics Through Islamic Religious Education In Schools. *Ijgie (International Journal Of Graduate Of Islamic Education)*, 5(1), Article 1. <https://doi.org/10.37567/Ijgie.V5i1.2685>
- Haddar, G. A., Haerudin, H., Riyanto, A., Syakhrani, A. W., & Aslan, A. (2023). The Revolution Of Islamic Education Thought In The Era Of Society 5.0: Corrections And Analysis Of Studies In Islamic Higher Education Institutions In South Kalimantan. *International Journal Of Teaching And Learning*, 1(4), Article 4.
- Hairiyanto, Sartika, E., Fransiska, F. W., & Aslan. (2024). Understanding The Students' English Learning Achievement And Home Environment Supports During School Closure To Respond To Pandemic At Private Madrasah Tsanawiyah At-Takwa Sambas. *International Journal Of Teaching And Learning*, 2(4), Article 4.
- Herzog, P. S., Strohmeier, A., King, D. P., Khader, R. A., Williams, A. L., Goodwin, J. L., Doan, D. R. H., & Moyo, B. (2020). Religiosity And Generosity: Multi-Level Approaches To Studying The Religiousness Of Prosocial Actions. *Religions*, 11(9), Article 9. <https://doi.org/10.3390/Rel11090446>
- Iqbal, D. M., Yousaf, M., Shaheen, A. K., & Nisa, Z. U. (2023). Barriers To Modern Education In Madrasahs Of Pakistan: Student And Teacher's Perceptions. *Journal Of Positive School Psychology*, 31-40.
- Kultsum, U., Defianty, M., Hidayat, D., Sufyan, A., Sholeh, M., & Zamhari, A. (2021, April 16). *A Technology Inclusion In English Teaching And Learning: A Case Study In High And Low Performing Madrasah Aliyahs In Indonesia*. Proceedings Of The 3rd International Colloquium On Interdisciplinary Islamic Studies, Iciis 2020, 20-21 October 2020, Jakarta, Indonesia. <https://eudl.eu/doi/10.4108/Eai.20-10-2020.2305141>
- Megawati, M., Annur, S., & Berlian, Z. (2023). Factors Influencing The Madrasah Working Group Program In Utilizing Information Technology To Support Great Madrasahs. *Proceeding Of International Conference On Education, Society And Humanity*, 1(1), Article 1.
- Mesra, R., Pratiwi, D., Handayani, R., Wiguna, I. B. A. A., Suyitno, M., Sampe, F., Halim, F. A., Mayasari, Saptadi, N. T. S., Purwati, H., Ridhani, J., Munandar, H., Tandirerung, V. A., Hamdani, H., & Aina, M. (2023). *Teknologi Pendidikan*. Sada Kurnia Pustaka.
- Miarso, Y. (2004). *Menyemai Benih Teknologi Pendidikan*. Kencana.
- Monahan, T., Mcardle, G., & Bertolotto, M. (2008). Virtual Reality For Collaborative E-Learning. *Computers & Education*, 50(4), 1339-1353. <https://doi.org/10.1016/J.Compedu.2006.12.008>

- Mulia, H. R. (2022). Analysis Of Supporting And Inhibiting Factors In The Integration Of Character Education In Akidah Akhlak Subjects At Min 11 Aceh Tenggara. *Educare: Journal Of Primary Education*, 3(1), 1–16.
- Nana, N., & Surahman, E. (2019). Pengembangan Inovasi Pembelajaran Digital Menggunakan Model Blended Poe2we Di Era Revolusi Industri 4.0. *Prosiding Snfa (Seminar Nasional Fisika Dan Aplikasinya)*, 4(0), Article 0. <https://doi.org/10.20961/prosidingsnfa.v4i0.35915>
- Nurdiana, R., Effendi, M. N., Ningsih, K. P., Abda, M. I., & Aslan, A. (2023). Collaborative Partnerships For Digital Education To Improve Students' Learning Achievement At The Institute Of Islamic Religion Of Sultan Muhammad Syafiuddin Sambas, Indonesia. *International Journal Of Teaching And Learning*, 1(1), Article 1.
- Nurdyansyah, N. (2017). Sumber Daya Dalam Teknologi Pendidikan. *Universitas Muhammadiyah Sidoarjo*. <http://eprints.umsida.ac.id/1625/>
- Okra, R., & Novera, Y. (2019). Pengembangan Media Pembelajaran Digital Ipa Di Smp N 3 Kecamatan Pangkalan. *Journal Educative: Journal Of Educational Studies*, 4(2), 121.
- Punch, K. F. (2013). *Introduction To Social Research: Quantitative And Qualitative Approaches*. Sage.
- Purba, R. A., Tamrin, A. F., Bachtiar, E., Makbul, R., Rofiki, I., Metanfanuan, T., Masrul, M., Simarmata, J., Juliana, J., & Irawan, E. (2020). *Teknologi Pendidikan*. <http://repository.uin-malang.ac.id/9835/>
- Rahayu, S. T. (2023). Analyzing Of Using Educational Technology To Improve The Quality And Equity Of Learning Outcomes At Politeknik Maritim Negeri. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(1), 100–116.
- Ratislavová, K., & Ratislav, J. (2014). Asynchronous Email Interview As A Qualitative Research Method In The Humanities. *Human Affairs*, 24(4), 452–460.
- Richardson, H. (2018). Characteristics Of A Comparative Research Design. Retrieved From Classroom Synonym: <https://classroom.synonym.com/characteristicscomparative-research-design-8274567.html>.
- Rohman, A., Muhtamiroh, S., Imron, A., & Miyono, N. (2023). Integrating Traditional-Modern Education In Madrasa To Promote Competitive Graduates In The Globalization Era. *Cogent Education*. <https://www.tandfonline.com/doi/abs/10.1080/2331186x.2023.2268456>
- Ross, D. (2022). 1 Islamic Education For All: Technological Change, Popular Literacy And The Transformation Of The Volga-Ural Madrasa, 1650s–1910s. In *1 Islamic Education For All: Technological Change, Popular Literacy And The Transformation Of The Volga-Ural Madrasa, 1650s–1910s* (Pp. 38–80). Edinburgh University Press. <https://doi.org/10.1515/9781474444316-003>
- Salvat, B. G. (2018). La Evolución Del E-Learning: Del Aula Virtual A La Red. *Ried. Revista Iberoamericana De Educación A Distancia*, 21(2). <https://www.redalyc.org/journal/3314/331455826005/331455826005.pdf>
- Santosa, S., & Jazuli, M. F. (2022). The Digital Madrasah As An Idea Of It-Based Islamic Education. *Nazhruna: Jurnal Pendidikan Islam*, 5(2), Article 2. <https://doi.org/10.31538/nzh.v5i2.2121>
- Sarmila, U., Aslan, A., & Astaman, A. (2023). The Role Of Parents Towards Youtube Users In Building Children's Religious Behavior In Kuala Pangkalan Keramat Village. *Archipelago Journal Of Southeast Asia Islamic Studies (Ajsais)*, 1(2), Article 2.

- Siminto, Afendi, H. A. R., & Widodo, S. F. A. (2024). The Transformation Of Madrasah Through The Use Of Education Technology. *International Journal Of Teaching And Learning*, 2(5), Article 5.
- Siskandar, S. (2020). The Role Of Religious Education And Utilization Digital Technology For Improving The Quality In Sustainability Madrasa. *Jurnal Tarbiyah*, 27(1), Article 1. <https://doi.org/10.30829/Tar.V27i1.675>
- Sitopu, J. W., Khairani, M., Roza, M., Judijanto, L., & Aslan, A. (2024). The Importance Of Integrating Mathematical Literacy In The Primary Education Curriculum: A Literature Review. *International Journal Of Teaching And Learning*, 2(1), Article 1.
- Suhid, A., Naser, M. Y. M., Ahmad, A. M., Abah, N. C., Jusoh, R., & Zaremohzzabieh, Z. (2021). Challenges And Readiness Of Islamic Education Teachers In Innovative Teaching And Learning. *Jurnal Ilmiah Peuradeun*, 9(2), Article 2. <https://doi.org/10.26811/Peuradeun.V9i2.588>
- Supartin, A. (2023). Analysis Of Supporting And Inhibiting Factors Of Students' Critical Thinking Ability At Islamic Elementary School. *Jenius (Journal Of Education Policy And Elementary Education Issues)*, 4(1), 24–36. <https://doi.org/10.22515/Jenius.V4i1.6296>
- Tubagus, M., Haerudin, H., Fathurohman, A., Adiyono, A., & Aslan, A. (2023). The Impact Of Technology On Islamic Pesantren Education And The Learning Outcomes Of Santri: New Trends And Possibilities. *Indonesian Journal Of Education (Injoe)*, 3(3), Article 3.
- Tuhuteru, L., Misnawati, D., Aslan, A., Taufiqoh, Z., & Imelda, I. (2023). The Effectiveness Of Multimedia-Based Learning To Accelerate Learning After The Pandemic At The Basic Education Level. *Tafkir: Interdisciplinary Journal Of Islamic Education*, 4(1), Article 1. <https://doi.org/10.31538/Tijie.V4i1.311>
- Violante, M. G., & Vezzetti, E. (2015). Virtual Interactive E-Learning Application: An Evaluation Of The Student Satisfaction. *Computer Applications In Engineering Education*, 23(1), 72–91. <https://doi.org/10.1002/Cae.21580>
- Zen, A., A, K., Sarip, M., Zulhingga, Z., & Liriwati, F. Y. (2023). Transformation Of Islamic Religious Education In Higher Education In The Digital And Technological Era. *Indonesian Journal Of Education (Injoe)*, 3(2), Article 2. <https://doi.org/10.54443/Injoe.V3i2.68>