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Use Of Digital Learning Documents In Islamic Religious Education In The 21st Century

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Abstract: Technological developments in the 21st century have had a significant impact on the world of education, including Islamic Religious Education (PAI). The use of digital learning documents is an innovative solution to support more relevant, interactive and flexible learning. Various types of digital documents, such as e-books, interactive videos, infographics and Islamic podcasts, offer broad accessibility and support the diversification of students' learning styles. Additionally, digital documents can increase student engagement through interactive features, enrich the learning experience, and support independent learning. However, challenges such as infrastructure gaps, teacher digital literacy, and the need for content conformity with Islamic values are obstacles to its implementation. Using a literature review approach, this article analyzes the benefits of digital documents in PAI learning and formulates implementation strategies.

Keywords: Abad 21; Digital Learning Documents; Islamic Religious Education (PAI); Educational Technology.

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Abstrak: Perkembangan teknologi di abad ke-21 telah memberikan dampak signifikan pada dunia pendidikan, termasuk Pendidikan Agama Islam (PAI). Pemanfaatan dokumen pembelajaran digital menjadi solusi inovatif untuk mendukung pembelajaran yang lebih relevan, interaktif, dan fleksibel. Berbagai jenis dokumen digital, seperti e-book, video interaktif, infografis, dan podcast Islami, menawarkan aksesibilitas yang luas dan mendukung diversifikasi gaya belajar siswa. Selain itu, dokumen digital dapat meningkatkan keterlibatan siswa melalui fitur interaktif, memperkaya pengalaman belajar, dan mendukung pembelajaran mandiri. Dengan pendekatan kajian literatur, artikel ini menganalisis manfaat dokumen digital dalam pembelajaran PAI serta merumuskan strategi implementasi, serta tantangannya.

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Kata Kunci: Abad 21; Dokumen Pembelajaran Digital; Pendidikan Agama Islam (PAI); Teknologi Pendidikan.

A. Introcdution

The remarkable technological advancements of the 21st century have brought significant changes across various fields, including education. Digitalization has now become a driving force in transforming how learning is conducted. Through digital technology, education can become more accessible, flexible, and of higher quality (Latifah & Ngalimun, 2023). Islamic Religious Education (PAI) has also benefited from these advancements. By utilizing digital learning documents, PAI teaching becomes more interactive, contextual, and efficient.

One of the main advantages of digital documents is their ability to transcend geographical and time constraints. Students can access learning materials anytime and from anywhere without having to be physically present in the classroom (Azhar et al., 2021). Furthermore, this technology provides a solution to the limitations of resources, such as printed books, which are often difficult to access, especially in remote areas (Rahman, 2020)

Additionally, digital documents support the diversity of students' learning styles. By combining media such as text, videos, and interactive simulations, teachers can adapt their teaching methods to meet the needs of each student. For instance, animated videos are effective for explaining abstract concepts like Islamic values, while text-based documents are more suitable for students who enjoy reading (Ummah, 2019)

However, digitalization also presents challenges, particularly in terms of digital literacy. Many teachers are not yet fully confident in using technology optimally for teaching, while students require guidance to use digital documents wisely and critically (Latifah & Ngalimun, 2023).

In the context of PAI, there is an additional challenge of ensuring that digital content aligns with Islamic values. The development of learning documents needs to consider theological accuracy and relevance to students' socio-cultural contexts (Chen et

al., 2018). This requires synergy between educators, religious scholars, and technology experts.

The use of digital documents also shifts the teacher's role from being the primary source of information to a facilitator. Teachers now help students find and understand various digital resources, reflecting a paradigm shift in education toward student-centered learning (Wijaya & Malang, 2024)

In the post-pandemic era, the relevance of digital documents has become even more apparent. Online learning, which was initially a temporary solution, has now become an integral part of education. The hybrid learning model, combining face-to-face and digital methods, has proven to support educational sustainability (Simanullang et al., 2023).

On the other hand, this technology also promotes inclusivity. Students with special needs, such as the visually impaired, can benefit from specially designed materials, such as audio documents. Digital materials also enable students to learn at their own pace (Mahlopy, 2023).

Nevertheless, the development of infrastructure remains a major challenge, especially in areas with limited internet access. Investment in hardware, software, and teacher training is urgently needed to ensure that all students can take advantage of the opportunities offered by digitalization (Latifah & Ngalimun, 2023).

Technological advancements in the 21st century have brought significant changes in various aspects of life, including education. In the context of Islamic Religious Education (PAI), the digitalization of learning documents is an essential innovation to support learning that is more relevant, effective, and flexible. However, the use of digital documents still faces numerous challenges, ranging from technical and pedagogical aspects to the need to maintain alignment with Islamic values.

The research questions in this study include a fundamental inquiry: how can digital learning documents support PAI learning in the 21st century? Furthermore, this study aims to address what challenges arise in the implementation of digital documents in PAI learning and what strategies can be applied to optimize their benefits.

The objectives of this study are to analyze the potential of digital documents in enhancing the quality of PAI learning in terms of accessibility, flexibility, and diversification of learning methods. Additionally, this paper aims to identify existing challenges, such as digital literacy, infrastructure limitations, and efforts to ensure that digital content remains aligned with Islamic values. Furthermore, this paper seeks to formulate practical strategies to help utilize digital documents effectively, thereby supporting PAI learning in this modern era.

B. Research Method

This study employs a literature review approach to analyze the utilization of digital learning documents in Islamic Education (PAI) in the 21st century. This approach aims to collect, evaluate, and synthesize various relevant literature sources to address the research questions and achieve the study's objectives. The data sources include academic journals, reference books, conference articles, and recent research reports focusing on the digitalization of education, technological innovations in PAI, implementation strategies, and associated challenges.

C. Results and Discussion

1. The Concept of 21st-Century Learning in the Context of Islamic Education (PAI)

21st-century learning emphasizes essential skills required for students to face global challenges, often referred to as the 4Cs: critical thinking, creativity, collaboration, and technological literacy. In the context of Islamic Education (PAI), this approach must be complemented by the integration of Islamic values to ensure that students are not only academically competent but also morally and spiritually strong.

Critical thinking skills are crucial for analyzing religious concepts, such as tauhid (monotheism) and akhlak (morality), as well as their applications in daily life. Technology-based learning enables students to access vast amounts of information, compare different interpretations, and draw deeper conclusions (Latifah & Ngalimun, 2023).

Additionally, creativity in PAI learning is fostered through the use of technology, such as creating videos or infographics that help students understand Islamic values in a more engaging and personal way (Azhar et al., 2021).

Collaboration, now a vital skill, is also facilitated by digital platforms, enabling students to work together on religion-based projects, such as case studies on applying Islamic values in the modern world (Simanullang et al., 2023). Technology further plays a crucial role in enhancing students' digital literacy, teaching them not only technological skills but also how to use technology ethically and in accordance with Islamic teachings (Rahman, 2020).

Furthermore, 21st-century PAI learning is not only skill-oriented but also focuses on character development through the integration of Islamic values. For example, students are taught to connect Islamic principles with technology-driven workplaces, enabling them to become individuals who are not only intelligent but also responsible and virtuous (Chen et al., 2018). Digital media acts as a bridge between the traditional teachings of Islam and modern technological advancements. Applications like digital Qurans and online learning platforms allow students to understand religious teachings more flexibly and relevantly, without compromising the essence of Islamic doctrines (Ummah, 2019).

Technology also addresses geographical and accessibility barriers in PAI learning, enabling students from remote areas to access materials that would otherwise be unavailable through traditional methods (Latifah & Ngalimun, 2023). In this context, teachers no longer serve merely as information providers but as facilitators who guide students in exploring in-depth and contextually relevant digital learning resources (Wijaya, 2023).

Finally, it is important to highlight that technology also supports the development of Islamic digital literacy. This enables students not only to use technology efficiently but also critically and responsibly, in alignment with Islamic values (Azhar et al., 2021). Thus, technology in PAI learning enriches students' educational experiences and prepares them to navigate an increasingly digitally connected world while maintaining strong religious principles.

2. Digital Learning Documents

Digital learning documents refer to educational materials presented in digital formats that can be accessed through electronic devices such as computers, tablets, or smartphones. These technology-based documents are used to support the learning process across various disciplines, including Islamic Education (PAI). Utilizing digital documents as learning resources allows students to access information in a more flexible and structured manner, supports diverse learning methods, and reduces reliance on printed materials (Immersiveness et al., 2023). Moreover, these digital documents provide opportunities for more interactive and personalized learning, enriching students' learning experiences through visual media, audio, and text that can be accessed anytime and anywhere (Chen et al., 2018).

Types of Digital Documents in Islamic Education (PAI) Learning

Various types of digital documents have been developed to meet learning needs in the context of Islamic Education (PAI). Each type of digital document has unique characteristics, allowing teachers to present material in more engaging ways tailored to students' learning styles. Below are some common types of digital documents used in PAI learning:

a. E-books

E-books are digital books accessible through electronic devices such as computers, tablets, or smartphones. In the context of PAI, e-books serve as learning resources that allow students to access Islamic teachings conveniently. For example, e-books on Quranic interpretation provide in-depth explanations of the meanings of sacred verses, or books on fiqh teach the procedures of Islamic worship. With e-books, students can read and learn Islamic teachings anytime and anywhere without being constrained by physical printed books (Yin et al., 2022).

b. Digital Modules

Digital modules are structured learning documents designed to deliver material in an organized and interactive manner. These modules often include additional elements such as quizzes, assignments, and comprehensive learning materials. In PAI, digital modules may cover topics like Islamic history, aqidah,

or akhlak. For instance, a module explaining the life of Prophet Muhammad (PBUH) that includes practice questions to test students' understanding or a fiqh module offering explanations about Islamic laws with concrete examples and practical applications (Qolamani & Mohammed, 2023).

c. Interactive Videos

Interactive videos allow students to directly engage with the material through features like integrated quizzes or choices within the video. In PAI learning, interactive videos may include explanations of prophetic stories or discussions on fiqh, enriched with visual and audio elements to enhance the learning experience. For example, a video teaching the pillars of faith or Islam, where students can answer questions or complete tasks after watching, helps them understand religious concepts in a more dynamic and engaging way (Azhar et al., 2021).

Instructional videos are particularly effective in increasing students' interest in learning. These videos can take the form of animations, lectures, or simulations explaining topics such as wudhu and prayer guides, prophetic stories, or moral concepts. For instance, an animated video about the life of Prophet Muhammad (PBUH) that is easy for children to understand. Platforms like YouTube, Ruangguru, and Zenius are often used to distribute such video content. The main advantage of instructional videos lies in their visual and appealing presentation, making it easier for students with various learning styles to understand the material (Nawi et al., 2020).

d. Infographics

Infographics are visual representations of data or information that simplify the understanding of complex concepts. In PAI, infographics can be used to illustrate various Islamic topics in a more engaging and easily understandable manner. For example, infographics depicting the stages of hajj rituals or summarizing the history of Islam’s development in the world. Infographics make it easier for students to grasp dense and complex information visually and engagingly (Tan et al., 2020).

e. Islamic Podcasts

Islamic podcasts are audio-based learning tools that allow students to listen to lectures, discussions, or studies on various Islamic topics. These podcasts offer flexibility, enabling students to learn while engaging in other activities, such as exercising or traveling. For instance, podcasts discussing Quranic interpretations or hadiths of Prophet Muhammad (PBUH) provide students with an accessible and flexible way to deepen their understanding of Islam (Qolamani & Mohammed, 2023).

f. Islamic Learning Apps

Islamic learning apps are downloadable applications for smartphones that provide direct access to various learning resources. These apps often include additional features like digital Qurans, daily prayers, interpretations, and other religious lessons. For example, apps that provide prayer reminders, help students learn daily prayers, or calculate zakat. These apps enable students to continue learning and deepening their understanding of Islam anywhere, even offline after downloading the materials (Mustafa et al., 2022).

g. Digital Exam Platforms

Digital exam systems are educational innovations that use technology to design, administer, and evaluate exams online. In the context of PAI, these systems make it easier for teachers to assess students' competencies in cognitive (knowledge), affective (attitude), and psychomotor (skills) domains. Popular platforms for digital exams include Google Forms, Quizizz, and Kahoot (Anggraeni & Ratnaningsih, 2019).

1) **Google Forms**

Google Forms is an easy-to-use platform for creating exam questions in various formats, such as multiple-choice, short answers, and essays. Features like automated response summaries make it easier for teachers to access results and analyze students' answers. Google Forms is widely used for its flexibility in being accessed through various devices and its integration with Google Drive for data storage.

2) **Quizizz**

Quizizz is an interactive quiz platform that provides a fun learning and evaluation experience. Teachers can create questions with elements like images and timers, as well as provide instant feedback. Students also receive automatic scores after completing the quiz. The leaderboard feature motivates students to engage in healthy competition. Quizizz is often used for PAI topics like quizzes on the pillars of faith, pillars of Islam, or prophetic stories.

3) **Kahoot**

Kahoot is a game-based platform designed to test students' understanding interactively. Teachers can create questions in quiz or survey formats, presented with visually appealing displays. Kahoot is highly effective for group-based learning activities, both in-person and online, allowing students to compete while learning.

Characteristics of Digital Documents

The main characteristics of digital documents include accessibility, interactivity, personalization, and adaptability to students' needs. Accessibility allows students to access materials anytime and anywhere, supporting remote learning and expanding educational access, particularly for students in remote areas (Latifah & Ngalimun, 2023). Interactivity enhances student engagement by providing opportunities to interact directly with the material through quizzes, assignments, or other features (Chen et al., 2018). Personalization of learning materials is another strength of digital documents, allowing students to select content based on their interests and comprehension levels (Yin et al., 2022). Furthermore, digital documents can adapt to students' needs, such as providing audio materials for visually impaired students or clearer visualizations for students with learning difficulties (Tan et al., 2020).

In conclusion, digital learning documents enable more inclusive learning and effectively support students' competency development. With all these characteristics and types of digital documents, it is evident that technology plays a significant role in shaping a more efficient, engaging, and relevant learning experience in the context of

Islamic Education in the 21st century. These technologies not only simplify access to Islamic teachings but also enhance the quality and diversity of learning methods for students (Mustafa et al., 2022).

3. Utilization of Digital Documents in Islamic Education (PAI)

The utilization of digital documents in Islamic Education (PAI) in the 21st century offers numerous benefits that can support more effective and relevant learning processes. Here are the key advantages of using digital documents in the context of PAI:

a. Enhanced Learning Accessibility

Digital documents make it easier for students to access learning materials anytime and anywhere. With e-books, digital modules, or learning apps accessible through devices like smartphones or computers, students are no longer restricted by time or location. This is especially beneficial in the era of globalization and post-pandemic, where remote learning has become common. Students from various regions, including remote areas, can easily access Islamic teachings such as Quranic interpretation or hadith without relying on physical books (Latifah & Ngalimun, 2023).

b. Flexibility in Learning

Digital documents offer high flexibility in choosing learning methods. With various media formats such as interactive videos, infographics, and Islamic podcasts, students can select materials that suit their learning styles. For example, students who prefer visual content can use infographics or videos, while those who enjoy reading can utilize e-books or digital modules. This flexibility makes learning more inclusive and adaptable to individual needs (Azhar et al., 2021).

c. Increased Engagement and Interactivity

Digital documents equipped with interactive features, such as quizzes or exercises in videos and modules, can boost student engagement in learning. By directly interacting with the material, students become more active and involved in the learning process. For instance, interactive videos on prophetic stories or Islamic jurisprudence accompanied by quizzes not only

help students understand information but also test and deepen their knowledge practically. This enhances students' critical thinking skills in understanding Islamic teachings (Chen et al., 2018).

d. Diversification of Learning Resources

Digital documents allow for variety in learning resources. For example, fiqh or Quranic interpretation books that were previously available only in print can now be accessed in digital formats. Additionally, media such as podcasts or Islamic learning apps provide students with more engaging and flexible learning materials. This enriches students' learning experiences and offers them more options to deepen their knowledge of Islam according to their needs and preferences (Mustafa et al., 2022).

e. Support for Independent Learning

Digital documents enable students to learn independently without relying entirely on face-to-face teaching. Students can access materials anytime, review content they did not understand, and find additional references as needed. This independent learning motivates students to be more proactive in seeking knowledge and deepening their understanding of Islamic teachings, allowing them to learn more independently and responsibly (Yin et al., 2022).

f. Simplification of Learning Material Management

With digital documents, teachers can more easily manage and distribute learning materials. Updates to content can be made quickly, and various types of digital documents, such as modules or instructional videos, can be easily shared with students. For example, teachers can update digital modules or Islamic learning apps with the latest content to explore specific topics in PAI. This makes the learning management process more dynamic and efficient (Mustafa et al., 2022).

g. Inclusivity in Learning

The use of digital technology also supports inclusive learning by providing materials that are accessible to students with diverse special needs. For

instance, Islamic learning apps are often equipped with features like text-to-speech or subtitles to assist visually or hearing-impaired students in accessing learning materials easily. In this way, digital documents ensure that every student, regardless of their condition, can learn in ways that suit their needs (Tan et al., 2020).

Overall, the use of digital documents in 21st-century Islamic Education provides numerous benefits that enhance access, engagement, and the effectiveness of learning. This digital technology not only makes Islamic teachings more accessible but also improves the quality of education and provides opportunities for students to learn more independently and flexibly (Azhar et al., 2021).

4. Strategies for Implementing Digital Documents in Islamic Education (PAI) in the 21st Century

The implementation of digital documents in Islamic Education (PAI) in the 21st century presents both opportunities and challenges. One key strategy is the development of a technology-based curriculum. This curriculum is designed to integrate Islamic values with digital skills, such as media and technology literacy, making religious education more relevant and contextual. This integration allows students to study religion with a more practical approach amidst the dynamics of the digital era (Anggraeni & Ratnaningsih, 2019).

In addition, intensive training for teachers is essential in implementing digital documents. Teachers must be equipped with skills to use e-learning platforms, interactive applications, and cloud-based document management systems. Such training enables them to become creative and effective facilitators in technology-based learning (Nawi et al., 2020).

Improving technological infrastructure is also a critical step. Islamic educational institutions must provide stable internet access as well as adequate hardware and software to support the management of digital documents. This ensures equal access for both students and teachers, including those in areas with limited technological infrastructure (Mustafa et al., 2022).

The management of digital documents requires a secure and efficient information management system. The adoption of encryption and cloud technologies can protect sensitive data, such as academic records and learning outcomes. Additionally, content monitoring is crucial to ensure that materials align with Islamic values. Digital ethics guidelines are also necessary to guide students in using technology responsibly (Nawi et al., 2020).

Multimedia technologies, such as videos, animations, and interactive simulations, offer significant opportunities to make religious education more engaging. These methods allow students to understand religious concepts in visually appealing ways, enhancing their engagement and comprehension of PAI material (Nawi et al., 2020).

However, this implementation faces several challenges, such as accessibility gaps in certain areas, limited digital skills among teachers, and the authenticity of circulating digital content. To address these challenges, a holistic approach is needed, involving continuous training, curriculum updates, and strict monitoring of learning content (Kurniawan et al., 2019).

With well-directed and adaptive strategies, the implementation of digital documents in PAI can make learning more relevant, inclusive, and innovative, thereby enabling Islamic education to effectively face the challenges of the digital era.

5. Challenges in Implementing Digital Documents in Islamic Religious Education (PAI) in the 21st Century

The implementation of digital documents in Islamic Religious Education (PAI) in the 21st century presents significant opportunities for enhancing the quality of learning, but it also faces substantial challenges. One of the main challenges is the limitation of technological infrastructure. Many Islamic educational institutions, especially in rural or

remote areas, struggle with access to stable internet and the necessary hardware to support document digitization. This limitation becomes a major barrier, particularly for PAI learning that requires the use of interactive media to optimize students' learning experiences (Sabrina et al., 2021).

In addition, the lack of digital competence among teachers is another issue that needs to be addressed. Not all PAI educators possess the necessary technological skills to fully utilize digital documents. Many teachers struggle to adapt to digital platforms or learning applications due to the lack of relevant training and technical support. Without adequate skills, teachers find it difficult to incorporate technology effectively into their teaching (Sami'in & Rahman, 2024).

Resistance to change also presents a significant obstacle in the implementation of digital documents. Some teachers are more comfortable with traditional print-based teaching methods and are concerned that technology may reduce the personal touch in religious instruction. This creates a challenge in effectively integrating technology into the learning process (Hidayat et al., 2022).

Moreover, the technological access gap between students in urban and rural areas becomes a serious challenge. Students in remote areas often do not have adequate devices, such as computers or tablets, to access digital documents. This gap can exacerbate educational inequalities and prevent students in certain areas from accessing learning materials on an equal basis (Hasanah, 2021).

The authenticity and validity of content also pose a significant challenge in using digital documents. There is a risk of content that does not align with Islamic teachings or biased interpretations, especially if there is inadequate oversight. This can undermine the quality of educational materials and affect students' understanding of religious teachings (Arifin & Abduh, 2021).

Additionally, issues of privacy and data security are important concerns. Digitizing documents in education requires institutions to store student data and learning content electronically, which brings the risk of privacy violations if data security policies are not strong enough. If students' personal data or other sensitive

information is not adequately protected, privacy breaches can occur, affecting both educational institutions and students (Literacy, 2022).

Dependency on technology also presents a challenge that needs to be considered. Digital-based learning increases reliance on technology, so if technical disruptions occur, such as power outages or server issues, the learning process may be disrupted. This situation can hinder the smooth progress of education that depends on technology (Ismail et al., 2021).

Furthermore, government policies that do not fully support the integration of digital documents into Islamic education remain a significant barrier. Regulations concerning the digitization of PAI learning materials are often still limited or not fully implemented, requiring efforts to design more comprehensive policies to support digitalization in education (Misrom et al., 2020).

Digital literacy barriers among students, especially those from lower socio-economic backgrounds, also pose a challenge. Many students are not accustomed to using technology for learning purposes and require additional guidance to access and use digital documents effectively (Anwar et al., 2022).

Lastly, the high cost of implementation is a major hindrance to the adoption of digital documents. Purchasing hardware, software, and conducting teacher training requires a significant initial investment, which can be a burden for many schools, especially those with limited budgets, such as private institutions (Arifin et al., 2023).

Overall, while the implementation of digital documents in PAI offers numerous opportunities to enhance learning, the challenges that exist need to be addressed with appropriate solutions. Overcoming these issues requires collaborative efforts between the government, educational institutions, and the private sector. This includes improving technological infrastructure, providing continuous training for educators, ensuring equitable access for all students, and developing policies that support the digitalization of Islamic education. With a holistic and planned approach, digital documents can become a highly effective tool in supporting PAI learning that meets the demands of the 21st century.

D. Conclusion

The use of digital learning documents in Islamic Religious Education (PAI) in the 21st century has become an effective solution to address the challenges of modern education. With the development of technology, digital documents such as e-books, educational videos, interactive applications, and Islamic educational game platforms provide broader and more flexible access to both students and teachers in the teaching and learning process. These digital media support a more interactive, engaging, and relevant learning experience for the digital generation.

Digital learning documents in PAI not only facilitate the distribution of materials but also encourage students' independent learning. Applications such as Muslim Pro, Quran Companion, and Islamic Quiz Game, for example, integrate technology with Islamic values, making the learning process more enjoyable. Other platforms, such as Google Forms and Quizizz, facilitate efficient and accurate digital-based evaluations. Additionally, visual content such as infographics and educational videos also enhances the understanding of religious concepts.

However, the utilization of digital documents faces challenges such as the digital access gap, the potential misuse of the internet, and the need for content validation to ensure alignment with Islamic values. Therefore, the involvement of teachers, parents, and educational institutions is crucial in guiding the use of technology for PAI learning.

E. Bibliography

Maesaroh., & Martiyono. (2023). Supervisi Pendidikan Untuk Meningkatkan Kualitas Pembelajaran Di Era Merdeka Belajar. *Ar-Rihlah: Jurnal Inovasi Pengembangan Pendidikan Islam*, *8*(2), 128–136. https://doi.org/10.33507/ar-rihlah.v8i2.1838

Anggraeni, C. W., & Ratnaningsih, E. (2019). "Jurnal TRANSFORMASI (Informasi & Pengembangan Iptek)" (Stmik Bina Patria) My Digital Poster In English Classroom: How Does It Work? *Jurnal TRANSFORMASI*, *15*(2), 170–176.

Anwar, A. R., Sajjad, M. T., Johar, M. A., Hernández-Gutiérrez, C. A., Usman, M., & Łepkowski, S. P. (2022). Recent Progress in Micro-LED-Based Display

Technologies. *Laser and Photonics Reviews*, *16*(6), 1–20. https://doi.org/10.1002/lpor.202100427

Arifin, M., & Abduh, M. (2021). Peningkatan Motivasi Belajar Model Pembelajaran Blended Learning. *Jurnal Basicedu*, *5*(4), 2339–2347. https://doi.org/10.31004/basicedu.v5i4.1201

Arifin, Sulkifly, & Yusuf, S. R. (2023). *Information and Communication Technology-Based Learning Management in Improving Learning Quality Services in the Digital Era*. Atlantis Press SARL. https://doi.org/10.2991/978-2-494069-35-0_59

Azhar, M., Hamid, A., Abdul, H., Yusoff, S., & Abdul, S. (2021). Environmental Technology & Innovation A continuous clinoptilolite augmented SBR-electrocoagulation process to remove concentrated ammonia and colour in landfill leachate. *Environmental Technology & Innovation*, *23*, 101575. https://doi.org/10.1016/j.eti.2021.101575

Chen, X. X. X. X., Tsai, M. Y., Wolynes, P. G., da Rosa, G., Grille, L., Calzada, V., Ahmad, K., Arcon, J. P., Battistini, F., Bayarri, G., Bishop, T., Carloni, P., Cheatham, T. E., Collepardo-Guevara, R., Czub, J., Espinosa, J. R., Galindo-Murillo, R., Harris, S. A., Hospital, A., … Crothers, D. M. (2018). Subjective Health Perception and Related Health Indicators Among Homebound Elderly: A Covariance Structural Analysis. *Nucleic Acids Research*, 6(1), 1–7. https://doi.org/10.1016/j.gde.2016.09.008

Hasanah, I. (2021). Menumbuhkan Jiwa Kreativitas Siswa Melalui Pembelajaran Berbasis IT Pada Era Pandemi Covid-19. *Journal Of Education And Teaching Learning (JETL)*, *3*(3), 18–28. https://doi.org/10.51178/jetl.v3i3.267

Hidayat, D. N., Lee, J. Y., Mason, J., & Khaerudin, T. (2022). Digital technology supporting English learning among Indonesian university students. *Research and Practice in Technology Enhanced Learning*, *17*(1). https://doi.org/10.1186/s41039-022-00198-8

Immersiveness, B. E., Trust, E., Ali, S., Poupi, T., Armand, T., Athar, A., Hussain, A.,

Ali, M., Yaseen, M., Joo, M. Il, & Kim, H. C. (2023). *Providing Patient Data Security*. 1–17.

Ismail, I. I., Abdelkarim, A., & Al-Hashel, J. Y. (2021). Physicians' attitude towards webinars and online education amid COVID-19 pandemic: When less is more. *PLoS ONE*, *16*(4 April), 1–14. https://doi.org/10.1371/journal.pone.0250241

Kurniawan, Y., Muliyani, R., & Nassim, S. (2019). Digital Story Conceptual Change Oriented (DSCC) to Reduce Students' Misconceptions in Physics. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *8*(2), 211–220. https://doi.org/10.24042/jipfalbiruni.v0i0.4596

Latifah, L., & Ngalimun, N. (2023). Pemulihan Pendidikan Pasca Pandemi Melalui Transformasi Digital Dengan Pendekatan Manajemen Pendidikan Islam Di Era Society 5.0. *Jurnal Terapung : Ilmu - Ilmu Sosial*, *5*(1), 41. https://doi.org/10.31602/jt.v5i1.10576

Literacy, N. (2022). *Smart Society : Community Service and Empowerment Journal Optimizing the Use of Digital-Based Learning Media Against*. *2*(2), 63–67.

Misrom, N. S., Abdurrahman, M. S., Abdullah, A. H., Osman, S., Hamzah, M. H., & Fauzan, A. (2020). Enhancing students' higher-order thinking skills (HOTS) through an inductive reasoning strategy using geogebra. *International Journal of Emerging Technologies in Learning*, *15*(3), 156–179. https://doi.org/10.3991/ijet.v15i03.9839

Mustafa, S., Qiao, Y., Yan, X., Anwar, A., Hao, T., & Rana, S. (2022). Digital Students' Satisfaction With and Intention to Use Online Teaching Modes, Role of Big Five Personality Traits. *Frontiers in Psychology*, *13*(July), 1–14. https://doi.org/10.3389/fpsyg.2022.956281

Nawi, A., Zakaria, G. A. N., Hashim, N., Mahalle, S., & Ren, C. C. (2020). The needs of islamic digital resources in polytechnic Brunei Darussalam: A preliminary study. *International Journal of Instruction*, *13*(1), 225–234. https://doi.org/10.29333/iji.2020.13115a

Qolamani, K. I. B., & Mohammed, M. M. (2023). The Digital Revolution in Higher Education: Transforming Teaching and Learning. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, *15*(2), 837–846. https://doi.org/10.37680/qalamuna.v15i2.3905

Rahman, M. M. (2020). Impact of digital technology in higher education. *International Journal of Research in Business and Social Science (2147- 4478)*, *9*(5), 318–325. https://doi.org/10.20525/ijrbs.v9i5.815

Sabrina, A., Iskandarsyah Siregar, Salsabila, & Sosrohadi, S. (2021). Lingual Dominance and Symbolic Power in the Discourse of Using the PeduliLindungi Application as a Digital Payment Tool. *International Journal of Linguistics Studies*, *1*(2), 52–59. https://doi.org/10.32996/ijls.2021.1.2.8

Sami'in, S., & Rahman, A. (2024). The Concept of Progressive Islamic Education According to Haedar Nashir's Thoughts. *Tarbawiyah : Jurnal Ilmiah Pendidikan*, *8*(1), 45. https://doi.org/10.32332/tarbawiyah.v8i1.9338

Simanullang, P., Sitopu, S. D., Girsang, E. M. F., & Gultom, F. (2023). Implementation of Community Education and Knowledge Development in the Utilization of Digital Literacy. *Jurnal Penelitian Pendidikan IPA*, *9*(2), 991–997. https://doi.org/10.29303/jppipa.v9i2.3800

Tan, C. W., Low, J. G. H., Wong, W. H., Chua, Y. Y., Goh, S. L., & Ng, H. J. (2020). Critically ill COVID-19 infected patients exhibit increased clot waveform analysis parameters consistent with hypercoagulability. *American Journal of Hematology*, *95*(7), E156–E158. https://doi.org/10.1002/ajh.25822

Ummah, M. S. (2019). Subjective Health Perception and Related Health Indicators Among Homebound Elderly: A Covariance Structural Analysis. *Sustainability (Switzerland)*, 11(1), 1–14.

Wijaya, I. D., & Malang, P. N. (2024). *Tantangan Dan Peluang Dalam Penerapan Teknologi Digital Bagi Pemerintah Di Indonesia Challenges And Opportunities In Digital Technology*. *6*(2).

Yin, S., Zhang, N., Ullah, K., & Gao, S. (2022). Enhancing Digital Innovation for the Sustainable Transformation of Manufacturing Industry: A Pressure-State-Response System Framework to Perceptions of Digital Green Innovation and Its Performance for Green and Intelligent Manufacturing. *Systems*, *10*(3). https://doi.org/10.3390/systems10030072