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AI Powered Trends In Learning Media Transformation: Behavioral Impacts On The Digital Generation

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ABSTRAK

Selama dekade terakhir, kemajuan pesat Kecerdasan Buatan (AI) telah secara fundamental mengubah desain dan penyampaian media pembelajaran, menciptakan peluang dan tantangan baru dalam lingkup pendidikan. Studi ini secara sistematis meninjau penelitian nasional dan internasional yang diterbitkan antara tahun 2015 dan 2025 untuk menganalisis bagaimana inovasi berbasis AI dalam media pembelajaran memengaruhi pola perilaku generasi digital. Mengacu pada artikel jurnal yang direview oleh rekan sejawat, prosiding konferensi, dan laporan institusi yang terindeks di Scopus, Web of Science, dan SINTA, analisis ini menyoroti pergeseran yang jelas dari model instruksional statis dan seragam menuju lingkungan pembelajaran yang adaptif, personal, dan interaktif. Media pembelajaran yang didukung AI ini terbukti dapat meningkatkan keterlibatan, motivasi, dan kemampuan belajar mandiri siswa, sekaligus mengembangkan dimensi baru literasi digital. Namun, temuan juga mengungkap kekhawatiran yang muncul, termasuk masalah privasi data, ketergantungan berlebihan pada sistem otomatis, dan potensi penurunan keterampilan berpikir kritis jika integrasi AI tidak didukung oleh desain pedagogis yang solid. Dengan mensintesis bukti akademik selama satu dekade, tinjauan ini menawarkan wawasan praktis dan rekomendasi strategis bagi pendidik, pembuat kebijakan, dan pengembang teknologi untuk memastikan bahwa media pembelajaran berbasis AI tidak hanya meningkatkan kemampuan teknologi tetapi juga menumbuhkan perilaku belajar yang bertanggung jawab, etis, dan holistik di generasi berikutnya.

ABSTRACT

Over the past decade, the rapid advancement of Artificial Intelligence (AI) has fundamentally reshaped the design and delivery of learning media, creating new opportunities and challenges in the educational landscape. This study systematically reviews national and international research published between 2015 and 2025 to examine how AI driven innovations in learning media influence the behaviour patterns of the digital generation. Drawing on peer reviewed journal articles, conference proceedings, and institutional reports indexed in Scopus, Web of Science, and SINTA, the analysis highlights a clear shift from static, one size fits all instructional models toward adaptive, personalized, and interactive learning environments. These AI powered media have been shown to enhance learner engagement, motivation, and self' learning directed, while simultaneously fostering new dimensions of digital literacy. However, the findings also reveal emerging concerns, including issues of data privacy, over dependence on automated systems, and the potential decline in critical thinking skills if AI integration is not supported by sound pedagogical design. By synthesizing a decade of scholarly evidence, this review offers practical insights and strategic recommendations for educators, policymakers, and technology developers to ensure that AI based learning media not only advance technological capabilities but also cultivate responsible, ethical, and holistic learning behaviours among future generations.

1. INTRODUCTION

In the past decade, Artificial Intelligence (AI) has evolved from a futuristic concept into a practical and transformative force across multiple sectors, including education (Ramadhina et al., 2023; Yadav & Shrawankar, 2024). As one of the most disruptive technological innovations of the 21st century, AI has fundamentally altered the way knowledge is delivered, consumed, and evaluated. Within the educational domain, the integration of AI into learning media has shifted (Bafadal et al., 2025; Kurniawati et al., 2025; Rahma et al., 2025). The paradigm from static, teacher centered instructional materials to dynamic, personalized, and adaptive systems (Saputri et al., 2025). AI powered tools ranging from intelligent tutoring systems and adaptive learning platforms to

automated content generation and real time analytics (Guido Herlambang & Ahmad Ruslan, 2025). This thing offer the potential to respond to the unique needs, pace, and learning styles of individual students.

This transformation is particularly significant for the so called digital generation, a cohort of learners born into a hyperconnected, technology driven world (Cholily et al., 2019; Mukti, 2023; Manjillatul Urba et al., 2024). Unlike previous generations, digital natives are accustomed to instant access to information, interactive digital environments, and seamless integration of technology into daily life. As a result, their learning behaviors, expectations, and cognitive engagement patterns differ markedly from those of earlier cohorts (Knihová, 2024). AI enhanced learning media, with their capacity for adaptive feedback, immersive experiences, and gamified engagement, align closely with these behavioral tendencies, offering both opportunities for deeper learning and challenges for sustained critical thinking.

The educational potential of AI is not limited to content delivery. It extends to behavioral analysis, where algorithms monitor learner interaction patterns, engagement levels, and even emotional states to inform real time adjustments in instruction (Sagala et al., 2024). This creates a feedback loop in which the learning environment actively shapes the learner's behavior, which in turn influences subsequent instructional design (Van Den Bergh et al., 2013; Leung et al., 2022). While such capabilities promise higher efficiency and engagement, they also raise concerns about data privacy, autonomy, and over reliance on machine driven guidance.

Globally, educational systems are grappling with how to harness AI for equitable, ethical, and sustainable outcomes (Khatun et al., 2024). Nations are investing in AI powered educational reforms, yet disparities in access, digital literacy, and cultural adaptability remain pressing issues (Wahyudi, 2024; Kusumawati et al., 2025). For developing countries, including Indonesia, the challenge lies in balancing technological adoption with the preservation of cultural values, ensuring that AI integration enhances rather than erodes essential humanistic aspects of education.

Although numerous studies have explored the technological capabilities and pedagogical applications of AI in education, a notable gap exists in the literature regarding its behavioral implications, particularly for the digital generation. Much of the current discourse focuses on system performance, usability, and learning outcomes in quantitative terms, this result based on the research of (Ronsumbre et al., 2023; Hapsari et al., 2024; Nurhayati et al., 2024). The result' with less emphasis on the nuanced ways in which AI mediated environments influence students' motivation, self regulation, collaboration, and ethical decision making.

Furthermore, while research on AI in education is proliferating internationally, there is limited synthesis that bridges findings from both global and national perspectives. Studies in developed nations often examine AI implementation within well resourced educational ecosystems, whereas research in developing contexts tends to address infrastructural and accessibility challenges, this argument is supported by previous research by (Ikhsan, 2022; Abdullah et al., 2025). A comprehensive review that integrates these perspectives is essential to identify both universal trends and context specific considerations in AI driven learning media adoption.The temporal dimension also warrants attention. AI technology, particularly in the realm of learning media, has undergone rapid evolution over the past ten years, making it critical to assess trends within this timeframe to capture the trajectory of innovation and its educational implications (Hanis & Wahyudin, 2024; Nurhayati et al., 2024; Awaluddin & Hadi, 2025). Yet, existing reviews are either too broad encompassing general edtech without a focus on AI or too narrow, addressing specific applications without linking them to broader behavioral outcomes.

This study seeks to fill these gaps by conducting a systematic literature review (SLR) of both national and international research published between 2015 and 2025. By doing so, it aims to provide a more holistic understanding of how AI powered trends in learning media influence the behavioral patterns of the digital generation, identifying not only technological opportunities but also ethical and pedagogical challenges.

The rationale for this research lies in the intersection of technological innovation and human behavior. While AI continues to revolutionize educational tools, the ultimate measure of its success lies not in the sophistication of its algorithms but in its ability to foster meaningful, ethical, and self sustaining learning practices among students. By synthesizing a decade's worth of scholarly work from diverse contexts, this study aims to contribute to the ongoing global discourse on educational innovation, offering both theoretical insights and practical guidance.

In doing so, it underscores the importance of adopting a balanced perspective one that recognizes the transformative potential of AI while remaining vigilant about its limitations and risks. Such a perspective is essential not only for academic research but also for policy formulation, curriculum design, and classroom practice in an era where technological change is both inevitable and accelerating.

2. METHOD

This study employed a Systematic Literature Review (SLR) approach to synthesize and analyze existing research on the trends of AI powered learning media and their impact on the learning behavior of the digital generation. The SLR methodology was selected to ensure a structured, transparent, and reproducible process of identifying, selecting, and analyzing relevant literature (Lestari et al., 2023). The review followed the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines, which provide a rigorous framework for documenting search strategies, inclusion criteria, and data synthesis (Nengsih & Haryanti, 2024).

A combination of controlled vocabulary (e.g., MeSH terms) and free text keywords was used to retrieve relevant studies. The Boolean operators “AND” and “OR” were applied to refine search results. The final search string was: "Artificial Intelligence" OR "AI" AND "learning media" OR "educational media" OR "instructional media" AND "digital generation" OR "digital natives" OR "Gen Z" AND ("learning behavior" OR "study behavior" OR "student behavior"

The second phase involved synthesizing and integrating evidence derived from individual studies, followed by interpreting the cumulative results, which were organized by (Hadi & Afandi, 2021). The inclusion criteria applied in this review were as follows: (1) research articles published between 2015 and 2025; (2) studies examining the use of interactive multimedia in science education at the elementary school level; (3) research reporting outcomes related to science literacy; (4) peer reviewed journal publications; and (5) full text availability in either Indonesian or English. Exclusion criteria comprised: (1) articles that were non empirical in nature (e.g., opinion essays or conceptual papers); (2) studies focusing on secondary or higher education levels; and (3) duplicate records. The selection process reduced the dataset from 98 to 20 articles based on the application of these inclusion and exclusion parameters, alongside an assessment of methodological quality and relevance to the research objectives.

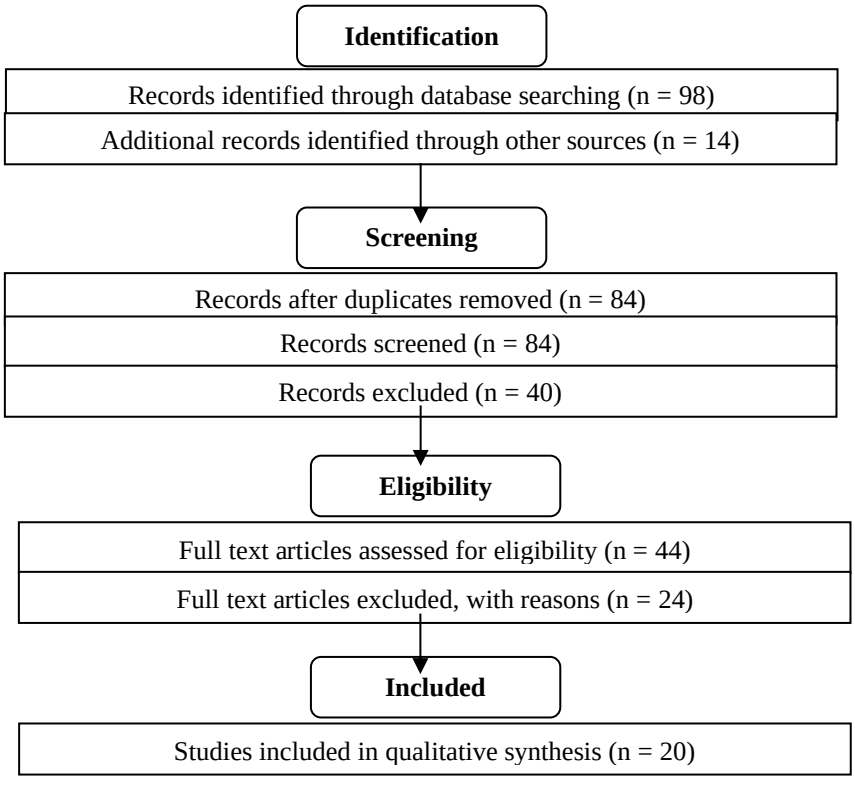

Figure 1. *Flow Diagram of Literature Selection*

3. RESULT AND DISCUSSION

The review of 20 studies revealed a clear trajectory in the evolution of AI powered learning media over the past decade (2015–2025). Early applications (2015–2017) primarily focused on intelligent tutoring systems (ITS) and automated assessment tools designed to support individualized feedback. Between 2018 and 2020, there was a notable increase in adaptive learning platforms capable of adjusting content difficulty and pacing according to learner performance. From 2021 onwards, the integration of AI with immersive technologies such as virtual reality (VR), augmented reality (AR), and gamified learning environments became a dominant trend, enabling highly interactive and contextually rich learning experiences.

Main categories of AI powered media emerged from the synthesis:

No.	Key Findings	Description
1	Shift in Learning Media Trends	A notable transition from static, traditional learning media toward adaptive AI based platforms leveraging machine learning and natural language processing for personalized content delivery.
2	Enhanced Interactivity	AI facilitates the development of interactive features such as chat bots, virtual tutors, and adaptive testing, enabling more engaging learning experiences.
3	Impact on Learning Motivation	AI integration has been shown to improve student engagement in the digital generation through gamification and real time feedback mechanisms.
4	Behavioral and Character Changes	Evidence indicates increased learner autonomy, accompanied by potential risks of overdependence on technology
5	Advancement of Digital Literacy	AI strengthens digital literacy by providing access to global resources and fostering students' data analysis skills.
6	Ethical Challenges	Concerns remain regarding data privacy, algorithmic bias, and AI's potential impact on critical thinking skills.
7	Sustainable Implementation Strategies	Recommendations emphasize combining AI with human centered pedagogy to mitigate adverse effects and ensure responsible integration.

The findings indicate that AI powered learning media have transitioned from supportive instructional aids to transformative educational ecosystems capable of shaping learner behavior in profound ways. This transition is not merely technological but behavioral, as learners adapt to more interactive, personalized, and feedback rich environments (Gan et al., 2015; Saputra, 2023; Kusumawati et al., 2025). The positive behavioral outcomes such as increased motivation, self regulation, and collaboration align with previous research on constructivist learning theories, where engagement and autonomy are key predictors of academic success.

However, the presence of challenges such as over reliance on AI and ethical awareness gaps underscores the importance of a balanced approach. AI should be viewed as an augmentative tool rather than a replacement for human led pedagogy (Kim et al., 2020; Liu et al., 2022; Isaacs et al., 2024). Without intentional instructional design, there is a risk of fostering dependency, reducing opportunities for deep cognitive engagement, and neglecting essential social emotional competencies.

From a pedagogical perspective, AI powered learning media hold considerable promise for differentiated instruction and lifelong learning (Rochmawati et al., 2023; Pratiwi & Yunus, 2024). Educators can leverage adaptive learning platforms to personalize content delivery while using predictive analytics to identify students who may require additional support (Asbara et al., 2024; Slamet et al., 2025; Sudipa et al., 2025). For policymakers, the results highlight the need to establish regulatory frameworks governing ethical AI use, with particular emphasis on data privacy and equitable access (Putra et al., 2024; Cakraningtyas et al., 2025; Nasution et al., 2025). Technology developers, on the other hand, are encouraged to design AI systems that incorporate explainability and transparency, ensuring that learners understand how algorithmic decisions are made.

The study's scope was limited to literature published in English and Indonesian, which may exclude relevant findings from other linguistic contexts. Furthermore, while the review included both

national and international studies, variations in methodological rigor and reporting standards may influence the comparability of results.

Future studies should consider longitudinal designs to examine the sustained behavioral impacts of AI powered learning media over extended periods. Additionally, research exploring the intersection of AI and cultural values could provide deeper insights into how technological innovations interact with socio cultural contexts in shaping learner behavior.

4. CONCLUSION

This study synthesizes a decade of national and international research on AI powered learning media and their implications for the behavioral patterns of the digital generation. The findings indicate that AI integration in education has evolved from basic intelligent tutoring systems to complex, immersive, and adaptive learning environments. These technological shifts have yielded notable positive outcomes, including heightened learner motivation, improved self regulation, and strengthened collaborative capacities. At the same time, the analysis revealed critical challenges such as the potential over reliance on AI, digital fatigue, and insufficient ethical awareness among learners. Collectively, these results underscore the transformative yet double edged nature of AI in shaping educational experiences.

Despite its contributions, this study acknowledges several limitations. The scope of the review was confined to literature published in English and Indonesian, potentially excluding valuable insights from other linguistic and cultural contexts. Variations in methodological rigor across the included studies may also limit the comparability of findings. Furthermore, the reliance on published literature may have introduced publication bias, as unpublished or non peer reviewed works were not systematically included. These constraints highlight the need for caution when generalizing the results beyond the contexts examined in this review.

In light of these findings and limitations, future research should adopt longitudinal approaches to evaluate the sustained behavioral impacts of AI powered learning media. Expanding the scope to include diverse linguistic and cultural contexts will enrich the understanding of AI's role in global education. Moreover, researchers, educators, and policymakers are urged to collaborate in developing ethical guidelines, ensuring equitable access, and integrating AI tools within pedagogically sound frameworks. Such efforts will maximize the potential benefits of AI while mitigating its risks, ultimately fostering a more inclusive, responsible, and effective learning ecosystem

5. REFERENCES

Abdullah, G., Karim, M. A., Lunggela, F. B., Hamzah, D., Lumentut, F., & Durand, W. S. (2025). ANALISIS PENGGUNAAN MEDIA PEMBELAJARAN IPA SEBAGAI INOVASI PEMBELAJARAN DI SD NEGERI. KNOWLEDGE: Jurnal Inovasi Hasil Penelitian Dan Pengembangan, 5(2), 552–560. https://doi.org/10.51878/knowledge.v5i2.6027

Asbara, N. W., Agunawan, A., Latief, F., Nurani, N., Ifani, A. Z., Deviv, S., Nianty, D. A., Mahendra, Y., & Wulandari, T. (2024). PENERAPAN AI SEBAGAI ALAT BANTU PROSES PEMBELAJARAN DI TINGKAT PENDIDIKAN SEKOLAH DASAR. JMM (Jurnal Masyarakat Mandiri), 8(1), 831. https://doi.org/10.31764/jmm.v8i1.20083

Awaluddin, & Hadi, M. S. (2025). SEKOLAH DASAR: TANTANGAN DAN PELUANG. Pendas : Jurnal Ilmiah Pendidikan Dasar, 10(1).

Bafadal, M. F., Hudri, M., & Sanzain, S. D. (2025). Optimalisasi Pembelajaran Bahasa Inggris Melalui Pelatihan Guru SD Tentang Pemanfaatan Media Digital Dan AI Di SDN 1 Labu Api, Kecamatan Labu Api. Jurnal Pengabdian Magister Pendidikan IPA, 8. https://doi.org/10.29303/jpmpi.v8i2.11854

Cakraningtyas, A. S., Alinta, I., & Susilo, B. (2025). Analisis Tantangan Integrasi Kecerdasan Buatan dalam Pembelajaran Sekolah Dasar. Lentera Pengabdian, 3(01), 101–106. https://doi.org/10.59422/lp.v3i01.661

Cholily, Y. M., Putri, W. T., & Kusgiarohmah, P. A. (2019). PEMBELAJARAN DI ERA REVOLUSI INDUSTRI 4.0. SEMINAR NASIONAL PENELITIAN PENDIDIKAN MATEMATIKA (SNP2M) 2019 UMT.

Gan, B., Menkhoff, T., & Smith, R. (2015). Enhancing students' learning process through interactive digital media: New opportunities for collaborative learning. Computers in Human Behavior, 51, 652–663. https://doi.org/10.1016/j.chb.2014.12.048

Guido Herlambang & Ahmad Ruslan. (2025). RELEVANSI DAN TANTANGAN PARAGMATISME DALAM MEMBENTUK PEMBELAJARAN YANG ADAPTIF. JURNAL ILMIAH RESEARCH AND DEVELOPMENT STUDENT, 3(1), 217–227. https://doi.org/10.59024/jis.v3i1.1101

Hadi, N. F., & Afandi, N. K. (2021). Literature Review is A Part of Research. Sultra Educational Journal, 1(3), 64–71. https://doi.org/10.54297/seduj.v1i3.203

Hanis, M., & Wahyudin, D. (2024). Pemanfaatan Artificial Intelligence (AI) Dalam Penyusunan Asesmen Pembelajaran Bagi Guru Sekolah Dasar. Jurnal Ilmiah Profesi Pendidikan, 9(2), 1199–1207. https://doi.org/10.29303/jipp.v9i2.2252

Hapsari, D. D., Ramadhani, G. Y., & Ikramullah, N. I. (2024). LITERATURE REVIEW: PENGARUH ARTIFICIAL INTELLIGENCE (AI) TERHADAP MOTIVASI BELAJAR PESERTA DIDIK. Jurnal Empati, 13(4).

Ikhsan, K. N. (2022). SARANA PEMBELAJARAN UNTUK MENINGKATKAN HASIL BELAJAR. ACADEMIA: Jurnal Inovasi Riset Akademik, 2(3), 119–127. https://doi.org/10.51878/academia.v2i3.1447

Isaacs, M., Majeed, A., Moussa, K., & Shodipo, D. (2024). Design and Implementation of an Ethical AI-Based Teaching Assistant for IoT Security Education. African Journal of Inter/Multidisciplinary Studies, 6(1). https://doi.org/10.51415/ajims.v6i1.1586

Khatun, M., Islam, R., Kumar, S., Hossain, R., & Mani, L. (2024). The Impact of Artificial Intelligence on Educational Transformation: Trends and Future Directions. Journal of Information Systems and Informatics, 6(4), 2347–2373. https://doi.org/10.51519/journalisi.v6i4.879

Kim, J., Merrill, K., Xu, K., & Sellnow, D. D. (2020). My Teacher Is a Machine: Understanding Students' Perceptions of AI Teaching Assistants in Online Education. International Journal of Human–Computer Interaction, 36(20), 1902–1911. https://doi.org/10.1080/10447318.2020.1801227

Knihová, L. (2024). AI-Powered Immersive Learning: Transforming Tertiary Education. Trendy v Podnikání, 14(2), 14–24. https://doi.org/10.24132/jbt.2024.14.2.14_24

Kurniawati, A., Ningsih, P. R., & Rahmawati, A. D. (2025). Innovative AI-Based Digital Learning through E-Books and Videos: A Strategy to Support the Merdeka Curriculum in Primary Schools. Journal of Action Research in Education, 3(1). https://doi.org/Journal of Action Research in Education

Kusumawati, W. I., Maufiroh, U., & Basith, A. (2025). KESENJANGAN INTEGRASI TEKNOLOGI DALAM PEMBELAJARAN DI SEKOLAH DASAR. Didaktik : Jurnal Ilmiah PGSD FKIP Universitas Mandiri, 11(2).

Lestari, I., Nurbaeti, M., & Wahyudiana, E. (2023). A SYSTEMATIC LITERATURE REVIEW ON MEDIA TECHNOLOGY IN CREATIVE THINKING FOR ELEMENTARY SCHOOL STUDENTS. PARAMETER: Jurnal Pendidikan Universitas Negeri Jakarta, 34(2), 82–118. https://doi.org/10.21009/parameter.342.03

Leung, A., Fine, P. D., Blizard, R., Tonni, I., Ilhan, D., & Louca, C. (2022). Teacher feedback and student learning–The students' perspective. Journal of Dentistry, 125, 104242. https://doi.org/10.1016/j.jdent.2022.104242

Liu, Y., Chen, L., & Yao, Z. (2022). The application of artificial intelligence assistant to deep learning in teachers' teaching and students' learning processes. Frontiers in Psychology, 13, 929175. https://doi.org/10.3389/fpsyg.2022.929175

Manjillatul Urba, Annisa Ramadhani, Arikah Putri Afriani, & Ade Suryanda. (2024). Generasi Z: Apa Gaya Belajar yang Ideal di Era Serba Digital? DIAJAR: Jurnal Pendidikan Dan Pembelajaran, 3(1), 50–56. https://doi.org/10.54259/diajar.v3i1.2265

Mukti, F. D. (2023). TRANSFORMATION OF EDUCATION IN ELEMENTARY SCHOOLS: UTILIZATION OF ARTIFICIAL INTELLIGENCE-BASED LEARNING MEDIA IN THE DIGITAL ERA. DIRASATUL IBTIDAIYAH, 3(2), 229–240. https://doi.org/10.24952/ibtidaiyah.v3i2.10200

Nasution, A. A., Nasution, C., & Rambe, S. M. (2025). Penerapan Teknologi Artificial Inteligence

Dalam Mengoptimalkan Kemampuan Belajar Siswa Sekolah Dasar. Journal of Sustainable Education, 2(2), 297–308. https://doi.org/10.63477/jose.v2i2.246

Nengsih, S., & Haryanti, Y. D. (2024). SYSTEMATIC LITERATURE REVIEW: MEDIA BERBASIS DIGITAL PADA PEMBELAJARAN IPA DI SEKOLAH DASAR. JURNAL MADINASIKA Manajemen Pendidikan Dan Keguruan, 5(2), 58–67. https://doi.org/10.31949/madinasika.v5i2.7811

Nurhayati, N., Suliyem, M., Hanafi, I., & Susanto, T. T. D. (2024). Integrasi AI dalam collaborative learning untuk meningkatkan efektivitas pembelajaran. Academy of Education Journal, 15(1), 1063–1071. https://doi.org/10.47200/aoej.v15i1.2372

Pratiwi, R. T. L., & Yunus, M. (2024). Manfaat dan Tantangan Penggunaan Artificial Intelligence (AI) bagi Guru dan Peserta Didik di Era Society 5.0. Journal of Innovation and Teacher Professionalism, 3(2), 488–494. https://doi.org/10.17977/um084v3i22025p488-494

Putra, A. P., Akbar, S., Setyosari, P., & Praherdhiono, H. (2024). Analisis Pemanfaatan Artificial Intelligence (AI) dalam Pendidikan terhadap Kualitas Pembelajaran di Sekolah Dasar.

Rahma, I. D., Rahmadania, R., Ningrum, T. R. S., Edwar, Y., Oktara, Y. R., Hidayat, T., & Rifa'i, R. (2025). Transformasi Peran Guru Di Era Kecerdasan Buatan: Dari Pengajar Menjadi Fasilitator Digital. RIGGS: Journal of Artificial Intelligence and Digital Business, 4(2), 6198–6203. https://doi.org/10.31004/riggs.v4i2.1566

Ramadhina, N., Jason, F., Pratama, M. F., Raihan, L. A., Al Mufti, S., & Meranti, M. (2023). Dinamika Perubahan dalam Komunikasi Manusia di Era Teknologi Artificial Intelligence. Communicator Sphere, 3(2), 114–123. https://doi.org/10.55397/cps.v3i2.57

Rochmawati, D. R., Arya, I., & Zakariyya, A. (2023). MANFAAT KECERDASAN BUATAN UNTUK PENDIDIKAN. Jurnal Teknologi Komputer Dan Informatika, 2(1), 124–134. https://doi.org/10.59820/tekomin.v2i1.163

Ronsumbre, S., Rukmawati, T., Sumarsono, A., & Waremra, R. S. (2023). Pembelajaran Digital Dengan Kecerdasan Buatan (AI): Korelasi AI Terhadap Motivasi Belajar Siswa. Jurnal Educatio FKIP UNMA, 9(3), 1464–1474. https://doi.org/10.31949/educatio.v9i3.5761

Sagala, K., Naibaho, L., & Rantung, D. A. (2024). Tantangan Pendidikan karakter di era digital. JURNAL KRIDATAMA SAINS DAN TEKNOLOGI, 6(01), 1–8. https://doi.org/10.53863/kst.v6i01.1006

Saputra, D. (2023). The Influence of Interactive Learning Media Usage on Student Learning Motivation in Islamic Religious Education at Elementary Schools. Jurnal Ar Ro'is Mandalika (Armada), 3(1), 29–38. https://doi.org/10.59613/armada.v3i1.2842

Saputri, A., Satria, I., Nofiani, J., & Fajriyah, R. Z. (2025). Membangun Silabus Yang Kreatif: Menjawab Kebutuhan Belajar Secara Personal dan Fleksibel. Future Academia : The Journal of Multidisciplinary Research on Scientific and Advanced, 3(2), 926–935. https://doi.org/10.61579/future.v3i2.500

Slamet, Fitria, M., & Laventia, F. (2025). Pemaknaan Guru terhadap Peran Artificial Intelligence (AI) dalam Transformasi Digital Pendidikan di Sekolah Dasar. RIGGS: Journal of Artificial Intelligence and Digital Business, 4(3).

Sudipa, I. G. I., Adnyana, I. N. W., Kusuma, A. S., Wiguna, K. A. G., Artha, K., Radhitya, M. L., Wijaya, B. K., Dwi, G. A. S., Suandana, N. P. W., & Kherismawati, N. P. E. (2025). Literasi Pemanfaatan Artifical Intelligence (AI) dalam Mendukung Pembelajaran Anak Sekolah Dasar. Journal of Social Work and Empowerment, 4(2).

Van Den Bergh, L., Ros, A., & Beijaard, D. (2013). Teacher feedback during active learning: Current practices in primary schools. British Journal of Educational Psychology, 83(2), 341–362. https://doi.org/10.1111/j.2044-8279.2012.02073.x

Wahyudi, N. G. (2024). Integrasi Teknologi dalam Pendidikan: Tantangan dan Peluang Pembelajaran Digital di Sekolah Dasar. Indonesian Research Journal on Education, 4(4).

Yadav, U., & Shrawankar, U. (2024). Artificial Intelligence Across Industries: A Comprehensive Review With a Focus on Education. In K. L. Keeley (Ed.), Advances in Educational Marketing, Administration, and Leadership (pp. 275–320). IGI Global. https://doi.org/10.4018/979-8-3693-5443-8.ch010