

DAFTAR PUSTAKA

- Alfredo, R., Echeverria, V., Jin, Y., Yan, L., Swiecki, Z., Gašević, D., & Martinez-Maldonado, R. (2024). Human-centred learning analytics and AI in education: A systematic literature review. *Computers and Education: Artificial Intelligence*, 6, 100215. <https://doi.org/10.1016/j.caeai.2024.100215>
- Anggreini, D., & Priyoadmiko, E. (2022). Peran guru dalam menghadapi tantangan implementasi merdeka belajar untuk meningkatkan pembelajaran matematika pada era omricon dan era society 5.0. *Prosiding Seminar Nasional Pendidikan Guru Sekolah Dasar 2022*, 1(1), 82.
- Aulia, H., Mandailina, V., Matematika, P., Mataram, U. M., & Review, L. (2024). *Peran artificial intelligence dalam mengembangkan lingkungan pembelajaran berbasis permainan yang imersif*. 1–21.
- Banihashemi, S., Meskin, S., Sheikhhoshkar, M., Mohandes, S. R., Hajirasouli, A., & LeNguyen, K. (2024). Circular economy in construction: The digital transformation perspective. *Cleaner Engineering and Technology*, 18, 100715. <https://doi.org/10.1016/j.clet.2023.100715>
- Bulut, D., Samur, Y., & Cömert, Z. (2022). The effect of educational game design process on students' creativity. *Smart Learning Environments*, 9(1). <https://doi.org/10.1186/s40561-022-00188-9>
- Chen, T. I., Lin, S. K., & Chung, H. C. (2023). Gamified educational robots lead an increase in motivation and creativity in STEM education. *Journal of Baltic Science Education*, 22(3), 427–438. <https://doi.org/10.33225/jbse/23.22.427>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.
- Dolenc, K., & Brumen, M. (2024). Exploring social and computer science students' perceptions of AI integration in (foreign) language instruction. *Computers and Education: Artificial Intelligence*, 7, 100285. <https://doi.org/10.1016/j.caeai.2024.100285>
- Dong, Y., Ma, H., Li, H., Jing, B., & Liu, H. (2025). Effects of digital badges on pupils' computational thinking and learning motivation in computer science. *Acta Psychologica*, 254, 104824. <https://doi.org/10.1016/j.actpsy.2025.104824>
- Guilford, J. P. (1950). Creativity. *American Psychologist*, 5(9), 444–454. <https://doi.org/10.1037/h0063487>
- Habib, S., Vogel, T., Anli, X., & Thorne, E. (2024). How does generative artificial intelligence impact student creativity? *Journal of Creativity*, 34(1), 100072. <https://doi.org/10.1016/j.yjoc.2023.100072>

- Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66(1), 64–74. <https://doi.org/10.1119/1.18809>
- Hasibuan, R., & Azizah, A. (n.d.). *2-Article text-37-1-10-20231107*. 6–10.
- Islam, K. R., Komalasari, K., Masyitoh, I. S., Juwita, J., & Adnin, I. (2024). Pengaruh model pembelajaran game based learning terhadap motivasi belajar peserta didik. *Ideas: Jurnal Pendidikan, Sosial, dan Budaya*, 10(3), 619. <https://doi.org/10.32884/ideas.v10i3.1640>
- Isti Septianing, Lina Melati, Nabila Deo Cantika, & Wannuraniza Destiani. (2024). Pengaruh penerapan game based learning terhadap motivasi belajar siswa sekolah dasar. *Khatulistiwa: Jurnal Pendidikan dan Sosial Humaniora*, 4(1), 94–103. <https://doi.org/10.55606/khatulistiwa.v4i1.2722>
- Keller, J. M. (1987). Development and use of the ARCS model of instructional design. *Journal of Instructional Development*, 10(3), 2–10.
- Kuo, H. C., Pan, A. J., Lin, C. S., & Chang, C. Y. (2022). Let's escape! The impact of a digital-physical combined escape room on students' creative thinking, learning motivation, and science academic achievement. *Education Sciences*, 12(9). <https://doi.org/10.3390/educsci12090615>
- Lee, S. J., & Kwon, K. (2024). A systematic review of AI education in K-12 classrooms from 2018 to 2023: Topics, strategies, and learning outcomes. *Computers and Education: Artificial Intelligence*, 6, 100211. <https://doi.org/10.1016/j.caeai.2024.100211>
- Lee, S., & Song, K. S. (2024). Teachers' and students' perceptions of AI-generated concept explanations: Implications for integrating generative AI in computer science education. *Computers and Education: Artificial Intelligence*, 7, 100283. <https://doi.org/10.1016/j.caeai.2024.100283>
- Makarim, N., Fathurrohman, M., & Jaenudin. (2023). Meta analisis: Pengaruh pembelajaran berbasis permainan terhadap motivasi dan hasil belajar matematika siswa. *Journal on Education*, 06(01), 10284–10293.
- Maufidhoh, I., & Maghfirah, I. (2023). Implementasi pembelajaran berbasis artificial intelligence melalui media puzzle maker pada siswa sekolah dasar. *ABUYA: Jurnal Pendidikan Dasar*, 1(1), 29–43.
- Maulana, N., Saputra, R. R., Misbah, I. Z., & Nofan, M. (2025). *Penerapan artificial intelligence dalam menunjang pemahaman matematika siswa SD*. 1–9.
- Muqoddaroh, F., Misriah, Z., & Pangura, A. A. (2024). Game edukasi dalam pembelajaran matematika. *JRPM (Jurnal Review Pembelajaran Matematika)*, 9(1), 20–32. <https://doi.org/10.15642/jrpm.2024.9.1.20-32>
- Nisa, M. A., & Susanto, R. (2022). Pengaruh penggunaan game edukasi berbasis wordwall dalam pembelajaran matematika terhadap motivasi belajar. *JPGI (Jurnal Penelitian Guru Indonesia)*, 7(1), 140. <https://doi.org/10.29210/022035jpgi0005>

- Piaget, J. (1973). *To understand is to invent: The future of education*. Grossman Publishers.
- Purnama, T., Rahmat, T., Sjech Djamil Djambek Bukittinggi, U. M., Raya Gurun Aua, J., Putiah, K., Agam, K., & Barat, S. (2024). Pengaruh penggunaan media geogebra terhadap motivasi dan hasil belajar matematika siswa. *Journal on Education*, 06(03), 16444–16452.
- Ryan, R. M., & Deci, E. L. (2020). *Intrinsic and extrinsic motivations: Classic definitions and new directions*. Routledge.
- Sahira Dina. (2024). Jurnal lingkaran pembelajaran inovatif (mathematic adventure quest) terhadap motivasi belajar. *Jurnal Lingkaran Pembelajaran Inovatif*, 5(7), 129–140.
- Salingaros, N. A. (2025). Living geometry, AI tools, and Alexander's 15 fundamental properties. Remodel the architecture studios! *Frontiers of Architectural Research*, xxx. <https://doi.org/10.1016/j.foar.2025.01.002>
- Saputra, H., Utami, L. F., & Purwanti, R. D. (2023). Era baru pembelajaran matematika: Menyongsong society 5.0. *Indiktika: Jurnal Inovasi Pendidikan Matematika*, 5(2), 146–157. <https://doi.org/10.31851/indiktika.v5i2.11155>
- Saputro, H. B., & Nurrahmi, A. (2023). Differential: Journal on mathematics education. *Journal on Mathematics Education*, 1, 57–67. <https://doi.org/10.32502/differential.v2i2.279>
- Sarhan, A. Y. (2023). Innovative blockchain-based agent digital passport solution. *Procedia Computer Science*, 225, 882–891. <https://doi.org/10.1016/j.procs.2023.10.075>
- Saritepeci, M., & Yildiz Durak, H. (2024). Effectiveness of artificial intelligence integration in design-based learning on design thinking mindset, creative and reflective thinking skills: An experimental study. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-024-12829-2>
- Schlauch, M., Sylla, C., & Gil, M. (2025). More than words: Conceptualizing narrative computational thinking based on a multicase study. *International Journal of Child-Computer Interaction*, 43, 100704. <https://doi.org/10.1016/j.ijcci.2024.100704>
- Sellami, H. M. (2024). Serious games to assess students. *Heliyon*, 10(8), e29179. <https://doi.org/10.1016/j.heliyon.2024.e29179>
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi experimental designs for generalized causal inference*. Houghton Mifflin.
- Solanki, S., Fitzpatrick, D., Jones, M. R., & Lee, H. (2020). *Journal pre of Educational Research Review*, 100359. <https://doi.org/10.1016/j.caeai.2025.100393>
- Suci Aniyawati, R. (2023). Prosiding konferensi ilmiah dasar implementasi game edukasi marbel pada pembelajaran matematika kelas 3 sekolah dasar. *Prosiding Konferensi Ilmiah Dasar*, 4, 400–420. <http://prosiding.unipma.ac.id/index.php/KID>

- Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Torrance, E. P. (1966). *Torrance tests of creative thinking*. Personnel Press.
- Treffinger, D. J., Young, G. C., Selby, E. C., & Shepardson, C. (2002). *Assessing creativity: A guide for educators*. The National Research Center on the Gifted and Talented.
- Voulgari, I., Zammit, M., Stouraitis, E., Liapis, A., & Yannakakis, G. (2021). Learn to machine learn: Designing a game based approach for teaching machine learning to primary and secondary education students. *Proceedings of Interaction Design and Children, IDC 2021*, 593–598. <https://doi.org/10.1145/3459990.3465176>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wagan, A. A., Khan, A. A., Chen, Y. L., Yee, P. L., Yang, J., & Laghari, A. A. (2023). Artificial intelligence-enabled game-based learning and quality of experience: A novel and secure framework (B-AIQoE). *Sustainability (Switzerland)*, 15(6). <https://doi.org/10.3390/su15065362>
- Walidah, G. N., Mudrikah, A., & Saputra, S. (2022). Pengaruh penggunaan game edukasi wordwall terhadap motivasi dan hasil belajar matematika peserta didik. *UJMES (Uninus Journal of Mathematics Education and Science)*, 7(2), 105–115. <https://doi.org/10.30999/ujmes.v7i2.2140>
- Wardani, M. E., & Kiptiyah, S. M. (2024). Game-based learning model with baamboozle media based on artificial intelligence increases student engagement and learning outcomes. *Jurnal Ilmiah Sekolah Dasar*, 8(2), 293–303. <https://doi.org/10.23887/jisd.v8i2.67141>
- Xu, T., Zhang, Y.-F., Chu, Z., Wang, S., & Wen, Q. (2024). *AI-driven virtual teacher for enhanced educational efficiency: Leveraging large pretrain models for autonomous error analysis and correction*. <http://arxiv.org/abs/2409.09403>
- Yue Yim, I. H. (2024). A critical review of teaching and learning artificial intelligence (AI) literacy: Developing an intelligence-based AI literacy framework for primary school education. *Computers and Education: Artificial Intelligence*, 7, 100319. <https://doi.org/10.1016/j.caeai.2024.100319>
- Zammit, M., Voulgari, I., Liapis, A., & Yannakakis, G. N. (2022). Learn to machine learn via games in the classroom. *Frontiers in Education*, 7, 1–13. <https://doi.org/10.3389/educ.2022.913530>