

DAFTAR PUSTAKA

- Abildayeva, T., & Shamoï, P. (2024). Fuzzy Logic Approach For Visual Analysis Of Websites With K-Means Clustering-Based Color Extraction. *Herald of the Kazakh-British Technical University*, 21(4), 10–21. <https://doi.org/10.55452/1998-6688-2024-21-4-10-21>
- Adrian, M. F. P., Saputra, G. Y., Kom, S., & Kom, M. (2025). Development of Interactive Learning Media Based on Website Using Google Sites at SMK Negeri 1 Samarinda. 26(1).
- Agusdianita, N. (2023). Model Pembelajaran PJBL Untuk Meningkatkan Hasil Belajar Mahapeserta didikpada Perkuliahan Pengembangan Pembelajaran Tematik. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 6(3). <https://doi.org/10.20961/shes.v6i3.82319>
- Aifah, D. N., & Astriani, D. (2024). Project Based Learning Model (Pjbl) To Improve Collaboration Skills And Student Cognitive Learning Results. 12.
- Arsyad, A. (2019). *Media Pembelajaran*. Jakarta: Raja Grafindo Persada..
- Alabbasi, A. M. A., Paek, S. H., Kim, D., & Cramond, B. (2022). What do educators need to know about the Torrance Tests of Creative Thinking: A comprehensive review. *Frontiers in Psychology*, 13, 1000385. <https://doi.org/10.3389/fpsyg.2022.1000385>
- Alfarisa, F., Arisetyawan, A., Maulana, F. R., Lathifah, N. Y., Afriani, S., & Mashudi, M. (2025). Creative thinking in elementary education: Reliable assessment instruments for science and social studies. *Jurnal Penelitian Dan Evaluasi Pendidikan*, 29(1), 13–25. <https://doi.org/10.21831/pep.v29i1.79429>
- Apriansyah, A., Haifaturrahmah, Sari, N., Nizaar, M., & Alaa, S. (2024). Project Based Learning Model on Elementary School Students' Science Process Skills and Creative Thinking Skills. *Jurnal Ilmiah Sekolah Dasar*, 8(1), 120–128. <https://doi.org/10.23887/jisd.v8i1.64273>
- Ardiansyah, A. S., & Putri, R. R. (2024). Improving Creative Thinking Ability through Innovation of Textbook with Challenge based on STEM Context Learning assisted by Nearpod. *Jurnal Riset Pendidikan Matematika*.
- Ardilansari, Muhammad Nizaar, Haifaturrahmah, Najamudin, & Emese K Nagy. (2023). The Right Method for Developing Elementary School Student's Creative Thinking Skills. *Jurnal Ilmiah Sekolah Dasar*, 7(3), 452–460. <https://doi.org/10.23887/jisd.v7i3.58273>
- Arifrabbani, L. M., Fadli, A., & Maujud, F. (2023). The Effectiveness of Implementing a Project-Based Learning Model in Enhancing Arabic Speaking Skills for 11th-Grade Students at SMAN 1 Praya.
- Asbah, J., & Firdaus, F. M. (2025). The Influence of Interactive Digital Learning Media on Improving History Learning Comprehension in Grade IV Students. *Jurnal Prima Edukasia*.
- Astuti, N., Efendi, U., & Haya, F. F. (n.d.). The Impact of Project Based Learning Model on Creative Thinking Ability of Forth Grade Students.
- Azari, A. M., Wilujeng, I., & Nurohman, S. (n.d.). Development of Web-based Science Learning to Improve ICT Literacy and Conceptual Understanding Skills.

- Azzahra', F. (2022). Konsep Media Dalam Tafsir Dakwah: Analisis Tafsir Surat Ibrahim Ayat 4 Dan Surat Al-An'am Ayat 75. *Jurnal Peurawi: Media Kajian Komunikasi Islam*, 5(2), 53. <https://doi.org/10.22373/jp.v5i2.14042>
- Az-zahra, F., & Yuliadi, S. P. (n.d.). Analisis Perbandingan Kinerja Website Statis dan Dinamis dalam Optimalisasi Layanan Informasi Digital.
- Beckett, G. H. (2023). Project-Based Learning For 21st-Century Skills: The Five C's For L2 Students. 2023, 5, 40–57. <https://doi.org/ISSN2583-1054>
- Beghetto, R. A. (2021). Creative Learning in Education. In M. L. Kern & M. L. Wehmeyer (Eds.), *The Palgrave Handbook of Positive Education* (pp. 473–491). Springer International Publishing. https://doi.org/10.1007/978-3-030-64537-3_19.
- Bell, S. (2010). Project-Based Learning for the 21st Century: Skills for the Future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 83(2), 39–43. <https://doi.org/10.1080/00098650903505415>.
- Bitar, N., & Davidovich, N. (2024). Transforming Pedagogy: The Digital Revolution in Higher Education. *Education Sciences*, 14(8), 811. <https://doi.org/10.3390/educsci14080811>.
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. New York: Springer.
- Brown, N. B. (2024). The Cognitive Type Project—Mapping Typography to Cognition (No. arXiv:2403.04087). arXiv. <https://doi.org/10.48550/arXiv.2403.04087>.
- Chen, X., Xie, H., Zou, D., & Hwang, G.-J. (2020). Application and theory gaps during the rise of Artificial Intelligence in Education. *Computers and Education: Artificial Intelligence*, 1, 100002. <https://doi.org/10.1016/j.caeai.2020.100002>.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). SAGE Publications.
- David, A., & Glore, P. (n.d.). *The Impact of Design and Aesthetics on Usability, Credibility, and Learning in an Online Environment*.
- Dorisno, D., Ayunis, A., Efendi, R., & Hb, Z. (2023). Penerapan Pembelajaran Berdiferensiasi Terhadap Kemampuan Berpikir Kreatif Peserta Didik Sekolah Dasar. *Tarbiyah Al-Awlad: Jurnal Kependidikan Islam Tingkat Dasar*, 13(2), 163–174. <https://doi.org/10.15548/alawlad.v13i2.8307>
- Dyan Wulan Sari Hs, Darinda Sofia Tanjung, Rumiris Lumban Gaol, Nova Florentina Ambarwati, Meikardo Samuel Prayuda, & Dinesh Elango. (2025). Contextualizing IPAS Learning through Local Wisdom: Toward a Culturally Rooted PjBL Model for Primary Education. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, 14(4), 604–615. <https://doi.org/10.33578/jpfkip.v14i4.p604-615>.
- Ejaz, S., Akbar, H., & Fatima, H. G. (2025). Enhancing Student Engagement through Project-Based Learning among 5th Grade Students. 3(6).
- Eliana, N., Wati, U. A., & Rahmadona, S. (2024). Leveraging the assure Model for Optimized Information Technology-Based Learning Media. *Al- Ishlah: Jurnal Pendidikan*, 16(3). <https://doi.org/10.35445/alishlah.v16i3.5639>
- Elisa, D. T., Juliana, J., Bundel, B., Bumbun, M., Silvester, S., & Purnasari, P. D.

- (2023). Analisis Karakteristik Hakikat Pembelajaran IPA di Sekolah Dasar, *Jurnal Pedagogik Pendidikan Dasar*, 10(1), 37–44. <https://doi.org/10.17509/jppd.v10i1.54868>
- Evenddy, S. S., Gailea, N., & Syafrizal, S. (2023). Exploring the Benefits and Challenges of Project-Based Learning in Higher Education. *PPSDP International Journal of Education*, 2(2), 458–469. <https://doi.org/10.59175/pijed.v2i2.148>
- Fembriani, F. (2022). Analisis Implementasi Pembelajaran IPA dan Merdeka Belajar di Sekolah Dasar. *Jurnal Ilmiah kontekstual*, 3(02), 100–106. <https://doi.org/10.46772/kontekstual.v3i02.661>
- Fitrah, M., Sofroniou, A., Setiawan, C., Widiastuti, W., Yarmanetti, N., Jaya, M. P. S., Panuntun, J. G., Arfaton, A., Beteno, S., & Susianti, I. (2025). The Impact of Integrated Project-Based Learning and Flipped Classroom on Students' Computational Thinking Skills: Embedded Mixed Methods. *Education Sciences*, 15(4), 448. <https://doi.org/10.3390/educsci15040448>
- Fitri, R., Lufri, L., Alberida, H., Amran, A., & Fachry, R. (2024). The project-based learning model and its contribution to student creativity: A review. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 10(1), 223–233. <https://doi.org/10.22219/jpbi.v10i1.31499>
- Garcia, M. B. (2025). Self-Coded Digital Portfolios as an Authentic Project-Based Learning Assessment in Computing Education: Evidence from a Web Design and Development Course. *Education Sciences*, 15(9), 1150. <https://doi.org/10.3390/educsci15091150>
- Google Sites-Based Educational Web Development in Ecosystem Learning Materials for Grade V Elementary Schools in Winong District, Pati Regency. (2024). *Uniglobal Journal of Social Sciences and Humanities*, 3, 51–57. <https://doi.org/10.53797/ujssh.v3i1.8.2024>
- Günay, M. (2024). The Impact Of Typography In Graphic Design. *International Journal Of Eurasia Social Sciences*, 57. <https://doi.org/10.35826/ijoess.4519>
- Hanama, A., Hidayati, D., & Dahlan, U. A. (2024). Learning Strategies in the Digital Era: Innovative Approaches for Elementary Schools. 3(3).
- Handayani, F. L., Putri, D. A., Fahrulnisa, S. A., Rizqi, S. A., Munbait, T. B., Julyani, T. N., & Sukmawati, W. (2023). Analisis Penggunaan Teknologi pada Pembelajaran IPA di Sekolah Dasar. *Jurnal Teknologi Pendidikan*, 1(2), 7. <https://doi.org/10.47134/jtp.v1i2.105>
- Hannafin, M. J., & Peck, K. L. (1988). *The Design, Development, and Evaluation of Instructional Software*. New York: Macmillan.
- Halim, N., Boys, M., Fahmi, F., & Nitin, M. (2023). The Implementation of Project-Based Learning in Indonesian EFL Class Between 2017 to 2022: A Systematic Review. *Lingeduca: Journal of Language and Education Studies*, 2(2), 95–111. <https://doi.org/10.55849/lingeduca.v2i2.96>
- Hwang, Y., Choi, E., & Park, N. (2022). The Development and Demonstration of Creative Education Programs Focused on Intelligent Information Technology. *Journal of Curriculum and Teaching*, 11(5), 155. <https://doi.org/10.5430/jct.v11n5p155>

- He, W., & Chiang, T. (2024). From growth and fixed creative mindsets to creative thinking: An investigation of the mediating role of creativity motivation. *Frontiers in Psychology*, 15, 1353271. <https://doi.org/10.3389/fpsyg.2024.1353271>
- Henriksen, D., Mishra, P., Creely, E., & Henderson, M. (2021). The Role of Creative Risk Taking and Productive Failure in Education and Technology Futures. *TechTrends*, 65(4), 602–605. <https://doi.org/10.1007/s11528-021-00622-8>
- Hernández-Ramos, J., & Araya, R. (2025). Do School Activities Foster Creative Thinking? An Analysis of PISA Results. *Education Sciences*, 15(2), 133. <https://doi.org/10.3390/educsci15020133>
- Hidayati Hidayati, Nur Alfin & Darmuki, Agus1. (2022). The Influence of Learning Media and Learning Motivation on Learning Outcomes. *Uniglobal Journal of Social Sciences and Humanities*, 1(2), 85–96. <https://doi.org/10.53797/ujssh.v1i2.13.2022>
- Intan, S., Yusuf, S. B., & Sari, D. F. (2022). A review on the use of audiovisual as media in improving listening skills among junior high school students. *English Education Journal*, 13(2), 303–316. <https://doi.org/10.24815/eej.v13i2.25932>
- Islapirna, I., Fadhillah, Yeka Hendriyani, & Wakhinuddin. (2023). Development of Interactive Learning Media in Computer Subjects and Basic Networks in Vocational High Schools. *Journal of informatics and telecommunication engineering*, 6(2), 579–586. <https://doi.org/10.31289/jite.v6i2.8867>
- Jamilah, & Astuti, Y. P. (2025). Science learning in primary schools: A comprehensive analysis of Curriculum Merdeka implementation. *Journal of Education Research and Evaluation*, 9(2), 269–281. <https://doi.org/10.23887/jere.v9i2.91470>
- Jalinus, N., Nabawi, R. A., & Mardin, A. (2017). The Seven Steps of Project Based Learning Model to Enhance Productive Competences of Vocational Students. *Proceedings of the International Conference on Technology and Vocational Teachers (ICTVT 2017)*. International Conference on Technology and Vocational Teachers (ICTVT 2017), Yogyakarta, Indonesia. <https://doi.org/10.2991/ictvt-17.2017.43>
- Karan, E., & Brown, L. (2022). Enhancing Students' Problem-solving Skills through Project-based Learning. *Journal of Problem Based Learning in Higher Education*. <https://doi.org/10.54337/ojs.jpblhe.v10i1.6887>
- Karunarathne, W., & Calma, A. (2024). Assessing creative thinking skills in higher education: Deficits and improvements. *Studies in Higher Education*, 49(1), 157–177. <https://doi.org/10.1080/03075079.2023.2225532>
- KeskinKiliç, F. (2023). The Relationship Between Readability and Text Design in Educational Websites1. *Kastamonu Eğitim Dergisi*, 600–610. <https://doi.org/10.24106/KEFDERGI-2023-0070>
- Khairrunisa, A. N., Yusup, I. R., & Paujiah, E. (2025). Improving students' scientific literacy through a problem-based learning model integrated with socio-scientific issues on ecosystem learning. *Biosfer*, 18(2), 276–289. <https://doi.org/10.21009/biosferjpb.55744>

- Khoiri, A., Evalina, Komariah, N., Utami, R. T., Paramarta, V., Siswandi, Janudin, & Sunarsi, D. (2021). 4Cs Analysis of 21st Century Skills-Based School Areas. *Journal of Physics: Conference Series*, 1764(1), 012142. <https://doi.org/10.1088/1742-6596/1764/1/012142>
- Kwon, H., & Lee, Y. (2025). A meta-analysis of STEM project-based learning on creativity. *STEM Education*, 5(2), 275–290.
- Lestari, F., Alim, J. A., & Noviyanti, M. (2024a). Implementation of Differentiated Learning to Enhance Elementary School Students' Mathematical Critical And Creative Thinking Skills. *International Journal of Elementary Education*, 8(1), 178–187. <https://doi.org/10.23887/ijee.v8i1.64295>
- Lestari, F., Alim, J. A., & Noviyanti, M. (2024b). Implementation of Differentiated Learning to Enhance Elementary School Students' Mathematical Critical and Creative Thinking Skills. *International Journal of Elementary Education*, 8(1), 178–187. <https://doi.org/10.23887/ijee.v8i1.64295>
- Lin, L.-W., Wei, S.-Y., Lu, K.-L., Wang, S., & Yan, T.-G. (2025). The influence of interactive learning, learning motivation, immersion learning and cognitive learning on learning performance. *Humanities and Social Sciences Communications*, 12(1), 1165. <https://doi.org/10.1057/s41599-025-05303-y>
- Liu, Z., Gearty, Z., Richard, E., Orrill, C. H., Kayumova, S., & Balasubramanian, R. (2024). Bringing computational thinking into classrooms: A systematic review on supporting teachers in integrating computational thinking into K-12 classrooms. *International Journal of STEM Education*, 11(1), 51. <https://doi.org/10.1186/s40594-024-00510-6>
- López Martínez, O., Lorca Garrido, A. J., & De Vicente-Yagüe Jara, M. I. (2024). Indicators of verbal creative thinking: Results of a Delphi panel. *Frontiers in Psychology*, 15, 1397861. <https://doi.org/10.3389/fpsyg.2024.1397861>
- Mardiyah, M., Listiawati, M., & Mas'ud, A. (2024). Kemampuan Berpikir Kreatif Peserta didik Menggunakan Model Pembelajaran Simas Eric Berbantu Media Canva Pada Materi Keanekaragaman Hayati.
- Markula, A., & Aksela, M. (2022). The key characteristics of project-based learning: How teachers implement projects in K-12 science education. *Disciplinary and Interdisciplinary Science Education Research*, 4(1), 2. <https://doi.org/10.1186/s43031-021-00042-x>
- Masnia, L., Prastiti, T. D., & Utomo, A. P. (n.d.-a). The Effect of the Project-Based Learning Model with Digital Learning Media on Science Literacy and Numeracy Skills in Madrasah Ibtidaiyah. 15(1).
- Masnia, L., Prastiti, T. D., & Utomo, A. P. (n.d.-b). The Effect of the Project-Based Learning Model with Digital Learning Media on Science Literacy and Numeracy Skills in Madrasah Ibtidaiyah. 15(1).
- Mayer, R. E. (2024). The Past, Present, and Future of the Cognitive Theory of Multimedia Learning. *Educational Psychology Review*, 36(1), 8. <https://doi.org/10.1007/s10648-023-09842-1>
- Mitha Dwi Anggriani, Ilfi Intansari, & Lina Indriani. (2024). Project-based learning: Cultivating collaborative skills in science education. *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, 13(5), 184–190. <https://doi.org/10.33578/jpkip-v13i5.p184-190>

- Mohamad Ashari, Z. B., & DongJin, S. (2024). Project Based Learning on Promoting Children's Critical Thinking Skills: A Systematic Review. *International Journal of Academic Research in Progressive Education and Development*, 13(3), Pages 807-820. <https://doi.org/10.6007/IJARPED/v13-i3/21732>.
- Muchtar, T., Syahrul, S., & Saputra, A. M. A. (2025). Pengaruh dan permasalahan pembelajaran Project-Based Learning (PjBL). *Jurnal Review Pendidikan dan Pengajaran*, 8(1), 2904–2915. <https://doi.org/10.31004/jrpp.v8i1.43017>
- Carin, A. A., & Sund, R. B. (1993). *Teaching science through discovery* (7th ed.). Merrill Publishing Company.
- Mudzar, N. M. B. M., & Chew, K. W. (2022). Change in Labour Force Skillset for the Fourth Industrial Revolution: A Literature Review. *International Journal of Technology*, 13(5), 969. <https://doi.org/10.14716/ijtech.v13i5.5875>
- Mukaromah, L., Sutarto, J., Subali, B., & Raihan, P. D. (2024). Development of Interactive Food Web Learning Media to Improve Mastery of Science Concepts and Student Creativity. *Jurnal Penelitian Pendidikan IPA*, 10(5), 2674–2678. <https://doi.org/10.29303/jppipa.v10i5.6901>
- National Research Council. (2012). *A framework for K–12 science education: Practices, crosscutting concepts, and core ideas*. National Academies Press.
- Ningrum, R. A., Widodo, W., & Sudibyo, E. (2024). The Influence of Website-Based Learning Media on Science Learning Outcomes in Elementary School Students in the Era of Society 5.0. *IJORER : International Journal of Recent Educational Research*, 5(1), 12–28. <https://doi.org/10.46245/ijorer.v5i1.445>
- Ningsi, N., & Hartono, H. (2025). Developing Interactive Learning Media to Enhance Elementary School Students' Learning Motivation. *EDUCARE: Journal of Primary Education*, 6(1), 81–96. <https://doi.org/10.35719/educare.v6i1.291>
- Noer, S. H., Triana, M., Gunowibowo, P., Asnawati, R., & Vetama, W. (2024). An empirical analysis: The impact of project-based learning on students' mathematical reflective thinking skills and self-concept. *Indonesian Journal of Science and Mathematics Education*, 7(3), 466. <https://doi.org/10.24042/ij sme.v7i3.21111>
- Nurhasanah, A., Handoyo, E., Widiyatmoko, A., & Rusdarti, R. (2025). Digital-Based Learning Media Innovation: Improving Motivation and Science Learning Outcomes. *International Journal on Social and Education Sciences*, 7(2), 185–194. <https://doi.org/10.46328/ijon ses.723>
- Nurpratiwi, S., Amaliyah, A., & Romli, N. A. (2022). Learning by Project: Develop Students' Self-reflection and Collaboration Skills Using Team-Based Project. *Hayula: Indonesian Journal of Multidisciplinary Islamic Studies*, 6(2), 267–284. <https://doi.org/10.21009/hayula.006.02.07>
- Nurwidiyanti, A., & Sari, P. M. (2022). Pengembangan Media Pembelajaran Flipbook Berbasis Literasi Sains pada Pembelajaran IPA Sekolah Dasar. *Jurnal Basicedu*, 6(4), 6949–6959. <https://doi.org/10.31004/basicedu.v6i4.3421>
- Oktavia, Z., & Ridlo, S. (2020). Critical Thinking Skills Reviewed from

- Communication Skills of the Primary School Students in STEM-Based Project-Based Learning Model. *Journal of Primary Education*, 9(3), 311–320. <https://doi.org/10.15294/jpe.v9i3.27573> OECD. (2019). PISA 2018 Results (Volume I): What Students Know and Can Do. OECD Publishing. <https://doi.org/10.1787/5f07c754-en>
- Ortega-Sánchez, D., & Jiménez-Eguizábal, A. (2019). Project-Based Learning through Information and Communications Technology and the Curricular Inclusion of Social Problems Relevant to the Initial Training of Infant School Teachers. *Sustainability*, 11(22), 6370. <https://doi.org/10.3390/su11226370>.
- Paz-Baruch, N., Grovas, G., & Mevarech, Z. R. (2025). The effects of meta-creative pedagogy on elementary school students' creative thinking. *Metacognition and Learning*, 20(1), 9. <https://doi.org/10.1007/s11409-025-09412-6>.
- Permata, N. N., Zaman, W. I., & Damayanti, S. (2022). Pengembangan Media Pembelajaran Miniatur Materi Energi Alternatif Untuk Peserta Didik Kelas Iv Sekolah Dasar *Edusaintek: Jurnal Pendidikan, Sains dan Teknologi*, 9(1), 1–13. <https://doi.org/10.47668/edusaintek.v9i1.374>
- Potęga Vel Žabik, K., Tanaś, Ł., Iłowiecka-Tańska, I., & Karwowski, M. (2021). Children's implicit theories of creativity in science. *Thinking Skills and Creativity*, 41, 100898. <https://doi.org/10.1016/j.tsc.2021.100898>.
- Poon, S. T. F. (2021). Typography Design's New Trajectory Towards Visual Literacy for Digital Mediums. *Studies in Media and Communication*, 9(1), 9. <https://doi.org/10.11114/smc.v9i1.5071>
- Project-Based Learning kemendikbud. (2021.).
- Purba, E., & Zunidar. (2025). Enhancing Student Creativity through Project-Based Learning in Science Education. *Electronic Journal of Education, Social Economics and Technology*, 6(2), Article 862.
- Putra, A. P., Roebyanto, G., & Arafik, Muh. (2021). Development of Interactive), Malang, Indonesia. <https://doi.org/10.2991/assehr.k.211210.010>.
- Putri, A. J., Sukmono, T., & Wicaksana, E. J. (2023). Influence of Problem Based Web Based Multimedia for Online Learning in Elementary School: International Conference on Information Technology and Education (ICITE 2021) Learning (PBL) Model Based on STEM Approach on Critical Thinking Ability Phase-E in Biology Learning. *Jurnal Penelitian Pendidikan IPA*, 9(9), 7056–7063. <https://doi.org/10.29303/jppipa.v9i9.4568>
- Putri Artifasari, E., Rahayu, S., & Ria Mustikasari, V. (2021). Analisis kebutuhan pengeksplicitan hakikat sains (NOS) dalam bahan ajar pada topik lapisan bumi. *Jurnal MIPA dan Pembelajarannya*, 1(2), 137–141. <https://doi.org/10.17977/um067v1i2p137-141>
- Rahman, R., Zaki, A., & Pratama, Y. A. (2025). The effect of Project-Based Learning on 21st century skills in middle school students in Indonesia. *Lingeduca: Journal of Language and Education Studies*, 4(1). <https://doi.org/10.70177/lingeduca.v4i1.2125>
- Rahmawati, F., & Atmojo, I. R. W. (2022). Penerapan Model Project-Based Learning Berbantuan Media Digital dalam Pembelajaran IPA di Sekolah Dasar. *Jurnal Inovasi Pendidikan Dasar*, 6(2), 55–64.

- Rahmawati, A. N., Rosanawati, I. M. R., & Sadino. (2024). Implementasi Model Project Based Learning (PjBL) untuk Meningkatkan Keaktifan dan Hasil Belajar Peserta didik pada Pembelajaran Matematika. *Edudikara: Jurnal Pendidikan dan Pembelajaran*, 9(2), 45–53. <https://doi.org/10.32585/edudikara.v9i2.359>
- Razali, N. H., Ali, N. N. N., Safiyuddin, S. K., & Khalid, F. (2022). Design Thinking Approaches in Education and Their Challenges: A Systematic Literature Review. *Creative Education*, 13(07), 2289–2299. <https://doi.org/10.4236/ce.2022.137145>
- Rehman, N., Huang, X., Mahmood, A., AlGerafi, M. A. M., & Javed, S. (2024). Project-based learning as a catalyst for 21st-Century skills and student engagement in the math classroom. *Heliyon*, 10(23), e39988. <https://doi.org/10.1016/j.heliyon.2024.e39988>
- Ridwan, M., Abdul Wahid, S., Hidayati Pratiwi, R., & Husin, M. (2025). Learning Media and Self-Efficacy: A Pathway to Science Literacy. *Journal for Lesson and Learning Studies*, 8(2), 328–337. <https://doi.org/10.23887/jlls.v8i2.96335>
- Rizkiyah, Z. R., Hariyadi, S., & Novenda, I. (2020). The Influence Of Project Based Learning Models On Science Technology, Engineering And Mathematics Approach To Collaborative Skills And Learning Results Of Student. 2.
- Rubiales-Núñez, J., Rubio, A., Araya-Castillo, L., & Moraga-Flores, H. (2024). Evolution of ambiguity tolerance research a scientometric and bibliometric Analysis. *Frontiers in Psychology*, 15, 1356992. <https://doi.org/10.3389/fpsyg.2024.1356992>
- Rustaman, N. Y. (2012). Pembelajaran IPA di sekolah dasar. Universitas Pendidikan Indonesia Press.
- Rusmini, R., Suyono, S., Agustini, R., & Fikriyati, A. (2025). Connected Creative Problem Solving: An Alternative Integrative Learning Model Based on Thinking Skills. *TEM Journal*, 644–653. <https://doi.org/10.18421/TEM141-57>
- Safitri, A., Kusumawati, N. D., & Nilasari, A. (2024). From Usability to Strategy: Enhancing Higher Education Website Quality through a Data-Driven Evaluation Using WebQual 4.0 and Importance-Performance Analysis. *Jurnal Teknologi Dan Open Source*, 7(2), 266–276. <https://doi.org/10.36378/jtos.v7i2.3858>
- Said, M. A., Ilham, I., & Kadir, M. F. A. (2024). Fostering Creativity to Enhance Physics Achievement: An Analysis of the Relationship Between Creative Thinking Ability and Student Learning Outcomes. <https://doi.org/DOI:%2520http://dx.doi.org/10.15294>
- Saputra, A. R., Murti, R. C., & Hastuti, W. S. (2025). The Effect of Web-Based Interactive Learning Media on Critical Thinking Skills of Elementary School Students. *Jurnal Prima Edukasia*, 13(1), 159–168. <https://doi.org/10.21831/jpe.v13i1.75228>
- Saputra, I. M. P., & Putra, D. B. K. N. S. (2021). Pengembangan media pembelajaran multimedia interaktif dengan model Hannafin and Peck

- bermuatan IPA kelas IV. *Mimbar Ilmu*, 26(1), 88–97. <https://doi.org/10.23887/mi.v26i1.32085>
- Sari, F. F. K., & Atmojo, I. R. W. (2021). Analisis Kebutuhan Bahan Ajar Digital Berbasis Flipbook untuk Memberdayakan Keterampilan Abad 21 Peserta Didik pada Pembelajaran IPA Sekolah Dasar. *Jurnal Basicedu*, 5(6), 6079–6085. <https://doi.org/10.31004/basicedu.v5i6.1715>.
- Sasmita, F. E., & Kusuma, R. S. (2023). Learning models that can improve elementary school students' creative thinking ability. *Jurnal Bidang Pendidikan Dasar*, 7(1), 57–71. <https://doi.org/10.21067/jbpd.v7i1.7912>
- Seo, J.-Y. (2022). College Students' Preferences on Principles for the Effective Instructional Video Design for Online General English Classes in Korea. *Electronic Journal of E-Learning*, 20(3), pp313–324. <https://doi.org/10.34190/ejel.20.3.2336>
- Septiany, L. D., Puspitawati, R. P., Susantini, E., Budiyanto, M., Purnomo, T., & Hariyono, E. (2024). Analysis of High School Students' Critical Thinking Skills Profile According to Ennis Indicators. *IJORER : International Journal of Recent Educational Research*, 5(1), 157–167. <https://doi.org/10.46245/ijorer.v5i1.544>
- Settlage, J., et al. (2024). Paradoxical perceptions: minoritized high school students' stereotypical and expansive views of science and scientists at an urban, inclusive STEM-focused high school. *Disciplinary and Interdisciplinary Science Education Research*. SpringerOpen.
- Simamora, A. H., Agustini, K., Sudatha, I. G. W., & Suartama, I. K. (2024). Enhancing teaching materials development course with the ICARE learning model in e-learning. *Journal of Education and Learning (EduLearn)*, 18(4), 1543–1552. <https://doi.org/10.11591/edulearn.v18i4.21304>
- Sircar, M., Orr, S., Madis, C., & DiMaria, S. (2024). Conceptualizing an Initial Framework to Support Discipline-Rich Project-Based Learning in STEM. *Education Sciences*, 14(7), 793. <https://doi.org/10.3390/educsci14070793>
- Sitorus, J., Anas, N., & Waruhu, E. (2019). Creative thinking ability and cognitive knowledge: Big Five personality. *REID (Research and Evaluation in Education)*, 5(2), 85–94. <https://doi.org/10.21831/reid.v5i2.22848>
- Srimulyo, K., Yuadi, I., Hu, C.-C., Indarwati, I. S. A., Gunarti, E., & Pratiwi, F. D. (2024). A Comprehensive Analysis of Information Quality in E-Learning: Example of Online Learning with Brainly. *TEM Journal*, 3205–3220. An <https://doi.org/10.18421/TEM134-55>
- Suhadi, A. Y., & Mustaffa, N. (2023). Online Learning Makes Student Perform Better: A Quantitative Study of Interactivity During Class and Academic Performance Among USIM Students. *Al-i'lam - Journal of Contemporary Islamic Communication and Media*, 3(1). <https://doi.org/10.33102/jcicom.vol3no1.84>
- Sunarmie, S., Pamungkur, P., & Elliyana, E. (2024). Optimal Website Design Strategy in E-Commerce. *Journal of Production, Operations Management and Economics*, 46, 64–76. <https://doi.org/10.55529/jpome.46.64.76>
- Surur, A. M. (2022). Gerlach and Ely's Learning Model: How to Implement It to Online Learning for Statistics Course. *Edumatika : Jurnal Riset Pendidikan*

- Matematika, 4(2), 174–188. <https://doi.org/10.32939/ejrpm.v4i2.987>
- Syahroni, A. I. (2025). Teachers' Challenges and Strategies of Project-Based Learning Due To Limited Time for Mentoring Speaking Ability. *Pioneer: Journal of Language and Literature*, 17(1), 154. <https://doi.org/10.36841/pioneer.v17i1.6099>
- Syarifuddin, S., An Shorlah, K., Novelia, L., Herdianti, N., & Titin, E. D. (2025). Effective learning strategies in elementary science education. *TOFEDU: The Future of Education Journal*, 4(5), 1285–1290. <https://doi.org/10.61445/tofedu.v4i5.555>
- Syofyan, H., Fadli, M. R., & Pappachan, P. (2025). Determinant Factors of Scientific Literacy in Elementary School Science Learning. *International Electronic Journal of Elementary Education*, 4. <https://doi.org/10.26822/iejee.2025.400>
- Tessmer Martin (1993) *Planning and Conducting Formative Evaluations* Kogan Page London @ Philadelphia
- Treffinger, D. J., & Isaksen, S. G. (n.d.). *Teaching and Applying Creative Problem Solving: Implications for At-Risk Students*.
- Trianto. (2010). *Model pembelajaran terpadu: Konsep, strategi, dan implementasinya dalam Kurikulum Tingkat Satuan Pendidikan (KTSP)*. Bumi Aksara.
- Trisdiono, H., Siswandari, S., Suryani, N., & Joyoatmojo, S. (2019). Multidisciplinary Integrated Project-based Learning to Improve Critical Thinking Skills and Collaboration. *International Journal of Learning, Teaching and Educational Research*, 18(1), 16–30. <https://doi.org/10.26803/ijlter.18.1.2>
- Utomo, R. K., Roshayanti, F., Nizaruddin, N., & Hayat, M. S. (2024). Analysis of Students' Creative Thinking Skills and Learning Motivation in Science Subjects at State Primary School. *Jurnal Ilmiah Pendidikan Fisika*, 8(3), 350. <https://doi.org/10.20527/jipf.v8i3.12772>
- Van Den Akker, J., Branch, R. M., Gustafson, K., Nieveen, N., & Plomp, T. (Eds.). (1999). *Design Approaches and Tools in Education and Training*. Springer Netherlands. <https://doi.org/10.1007/978-94-011-4255-7>
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Wardana, I. I., Sukaesih, S., & Dewi, N. R. (2024). Visualizing Research Trends on the Impact of STEM-Integrated Project-Based Learning Model on 21st-Century Skills Using VOSviewer and Harzing's Publish or Perish: A Systematic Literature Review. *Journal of Innovative Science Education*, 13(3), 159–175. <https://doi.org/10.15294/jise.v13i3.16998>
- Wise, T. A., & Kenett, Y. N. (2024). Sparking creativity: Encouraging creative idea generation through automatically generated word recommendations. *Behavior Research Methods*, 56(7), 7939–7962. <https://doi.org/10.3758/s13428-024-02463-8>
- Wulandari, M. A., Senen, A., Wardani, D. S., & Ruqoyyah, S. (2025). Transforming education through Project-Based Learning (PjBL): Enhancing