

DAFTAR PUSTAKA

- A.Suhartatik, N., Resti, I., & Dwi, F. (2023). Panduan Bioteknologi Pangan. In *Panduan Bioteknologi Pangan* (Nomor 165).
- Adila Solida, & Andy Amir. (2023). Implementation Of Project-Based Learning In Improving Critical Thinking Skills And Communication Skills Of Public Health Students. *LITERACY : International Scientific Journals of Social, Education, Humanities*, 2(1), 193–206. <https://doi.org/10.56910/literacy.v2i1.558>
- Adiputra, Y., & Putri, H. E. (2020). Penerapan Model Problem Based Learning Berbasis Budaya Industri Untuk Meningkatkan (Implementation Problem Based Learning Model Based. *GAUSS: Jurnal Pendidikan Matematika*, 03(02), 6676. <https://ejurnal.lppmunsera.org/index.php/gauss/article/view/2720%0Ahttps://ejurnal.lppmunsera.org/index.php/gauss/article/download/2720/1511>
- Aisah, S., & Agustini, R. R. (2024). Pengembangan Instrumen Keterampilan Proses Sains Dengan Desain Pembelajaran Berdiferensiasi Di Tingkat Sekolah Dasar. *Jurnal Education and Development*, 12(1), 275–280. <https://doi.org/10.37081/ed.v12i1.5746>
- Almeida, L. S., Prieto, L. P., Ferrando, M., Oliveira, E., & Ferrándiz, C. (2008). Torrance Test of Creative Thinking: The question of its construct validity. *Thinking Skills and Creativity*, 3(1), 53–58. <https://doi.org/10.1016/j.tsc.2008.03.003>
- Amalia, G. R., Kurniasih, S., & Jaenudin, D. (2022). Project-Based Learning on Biotechnology Materials to Enhance High School Students' Creativity and Problem-Solving Skills. *Journal of Science Education and Practice*, 6(1), 51–64. <https://doi.org/10.33751/jsep.v6i1.5704>
- Ariandini, N., & Ramly, R. A. (2023). Penggunaan Multimedia Pembelajaran Interaktif Dalam Meningkatkan Hasil Belajar Siswa. *Jurnal Kependidikan Media Stats*, 12, 107–116.
- Arnold, M. E., & Bourdeau, V. (2009). Science Process Skills Inventory (SPSI). *Development*.
- Arsitades Wiranegara, D. (2019). Designing Project-Based Learning in Esp Class. *Journal of English for Academic and Specific Purposes (JEASP)*, 2(2), 25–35. <https://doi.org/10.18860/jeasp.v2i2.8291>
- Aulia, N. (2023). Penerapan Model Project Based Learning untuk Meningkatkan Kemampuan Berpikir Kreatif Siswa di Sekolah Dasar. *Jurnal Riset Madrasah Ibtidaiyah (JURMIA)*, 3(1), 1–7. <https://doi.org/10.32665/jurmia.v3i1.338>

- Ayudyaningsih, P., Mustofa, R. F., Nuryadin, E., Biologi, P., & Siliwangi, U. (2024). *Pengaruh Model Project Based Learning (Pjbl) Terhadap Keterampilan Berpikir Kreatif Dan Literasi Sains Peserta Didik Pada Materi Bioteknologi (Studi Eksperimen di kelas X SMA Negeri 1 Jatiwaras Tahun Ajaran 2023 / 2024) The Effect of the Project Based.* 10, 480–493.
- Azzahra, U., Arsih, F., & Alberida, H. (2023). (2023). Pengaruh Model Pembelajaran Project-Based Learning (PjBL) terhadap Keterampilan Berpikir Kreatif Peserta Didik pada Pembelajaran Biologi. *Literature Review. BIOCHEPHY: Journal of Science Education*, VIII(I), 49–60.
- Chimam, S. L., & Aryani, I. (2024). Bioecos: Suatu Media Berbasis Project Based Learning (PjBL) untuk Mengembangkan Kemampuan Berpikir Kreatif. *Bioscientist : Jurnal Ilmiah Biologi*, 12(1), 912. <https://doi.org/10.33394/bioscientist.v12i1.11119>
- Dacumos, L. P. (2021). Improving the Science Process Skills of STEM Students through Personality-based Approach. *SEAQIS Journal of Science Education*, 1(02), 35–48. <https://doi.org/10.58249/sjse.v1i02.26>
- Desstya, A. (2019). Keterampilan Proses Sains dan Pembelajaran IPA di Sekolah Dasar. *Profesi Pendidikan Dasar*, 2(2), 95–102.
- 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>
- Handayani, S. A., Rahayu, Y. S., & Agustini, R. (2021). Students' creative thinking skills in biology learning: Fluency, flexibility, originality, and elaboration. *Journal of Physics: Conference Series*, 1747(1). <https://doi.org/10.1088/1742-6596/1747/1/012040>
- Hauko R, F., & Lihawal, M. (2017). Penerapan media digital dalam pembelajaran berbasis proyek untuk meningkatkan kreativitas peserta didik. *Skripsi*, 13(1), 39–48. <https://repository.ung.ac.id/skripsi/show/441412002/penerapan-project-based-learning-pada-materi-larutan-penyangga-untuk-meningkatkan-kreativitas-dan-hasil-belajar-siswa-kelas-xi-mia-sma-negeri-1-kabila.html>
- Hin, K. K., Yasin, R. M., & Amin, L. (2024). *Bioteknologi Dan Pemupukan Kemahiran Abad Ke-21 (Biotechnology and Inculcation of 21st Century Skills)*. 6(1), 28–41.
- Hizqiyah, I. Y. N., Nugraha, I., Cartono, C., Ibrahim, Y., Nurlaelah, I., Yanti, M., &

- Nuraeni, S. (2023). The project-based learning model and its contribution to life skills in biology learning: A systematic literature network analysis. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 9(1), 26–35. <https://doi.org/10.22219/jpbi.v9i1.22089>
- Islami, F. N., Putri, G. D., & Nurdwiandari, P. (2018). Kemampuan Fluency, Flexibility, Originality, Dan Self Confidence Siswa Smp. *JPMI (Jurnal Pembelajaran Matematika Inovatif)*, 1(3), 249. <https://doi.org/10.22460/jpmi.v1i3.p249-258>
- Istiqomah, N., Hujjatusnaini, N., Septiana, N., & Amin, A. M. (2022). Implementasi Model Pembelajaran Project Based Learning Terintegrasi Praktikum Studi Antagonisme *Escherichia coli* dan *Candida albicans* Terhadap Keterampilan Berpikir Kritis Mahasiswa. *Jurnal Pendidikan Sains Indonesia*, 10(4), 892–904. <https://doi.org/10.24815/jpsi.v10i4.26264>
- Jabeen, S., & Khan, M. A. (2018). A study on Creative Thinking Abilities and Self-Concept of High and Low Achievers. *Journal of Education Practice*, 4(4), 225–235.
- Khafah, F., Suprpto, P. K., & Nuryadin, E. (2023). The effect of project-based learning model on students' critical and creative thinking skills in the ecosystem concept. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 9(3), 244–255. <https://doi.org/10.22219/jpbi.v9i3.27461>
- Khazalina, T. (2020). *Saccharomyces cerevisiae* in making halal products based on conventional biotechnology and genetic engineering. *Journal of Halal Product and Research*, 3(2), 88. <https://doi.org/10.20473/jhpr.vol.3-issue.2.88-94>
- Konert, J. (2014). Interactive multimedia learning (Using Social Media For Peer, Education in Single-Player, Educational Games). In *ACM SIGMultimedia Records* (Vol. 6, Nomor 1). <https://doi.org/10.1145/2615726.2615730>
- Kurniawati, A. (2021). Science Process Skills and Its Implementation in the Process of Science Learning Evaluation in Schools. *Journal of Science Education Research*, 5(2), 16–20. <https://doi.org/10.21831/jsr.v5i2.44269>
- Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, S., & Orr, R. B. (2011). Campbell Biology. In *The Karoo*. <https://doi.org/10.1017/cbo9780511541988.013>
- Martini, D., Mulada, D. A., & Sartika, D. (2020). Bioteknologi Tradisional Dan Sumber Daya Genetika Indonesia: Kasus Pemanfaatan Oleh Industry Farmasi. *Journal Kompilasi Hukum*, 5(1), 129–153. <https://doi.org/10.29303/jkh.v5i1.4>

- Mayer, R. E. (2019). Multimedia Learning Secon Edition. In *Sustainability (Switzerland)* (Vol. 11, Nomor 1). <http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciur.beco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484> Sistem Pembedugan Terpusat Strategi Melestarti
- Novitasari, Wiyanarti, E., & Jupri. (2018). The Implementation of Project Based Learning To Improve Students Responsibility in Social Studies Learning. *International Journal Pedagogy of Social Studies*, 3(2), 19–32.
- Paz-Baruch, N., & Grovas, D. (2025). The effects of meta-creative pedagogy on elementary school students' creative thinking. *Metacognition and Learning*, 20(1), 1–28. <https://doi.org/10.1007/s11409-025-09412-6>
- Piirto, J. (2019). No Creativity for 21st Century Skills How to Embed Creativity into the Curriculum. In *Sustainability (Switzerland)* (Vol. 11, Nomor 1). <http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciur.beco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484> Sistem Pembedugan Terpusat Strategi Melestarti
- Putri, Y. S., & Alberida, H. (2022). Keterampilan Berpikir Kreatif Peserta Didik Kelas X Tahun Ajaran 2021/2022 di SMAN 1 Pariaman. *Biodik*, 8(2), 112–117. <https://doi.org/10.22437/bio.v8i2.17356>
- Rahmawati, D., & Sulistyaningsih, E. (2021). *Strategi Meningkatkan Literasi Sains Siswa di Era Digital*. 5(2), 114–119.
- Retter, H. (2018). The Centenary of William H. Kilpatrick's "Project Method": A Landmark in Progressive Education Against the Background of American-German Relations After World War I Abstract: *International Dialogues on Education*, 5(2), 10–36.
- Sadia, & Retnasari, D. (2023). Implementasi Model Project Based Learning Dalam Kurikulum Merdeka. *Prosiding Pendidikan Teknik Boga Busana FT Universitas Negeri Yogyakarta*, 18(1), 1–6.
- Seak Oh, P. (2020). A critical review of the skill-based approach to scientific inquiry in science education. *Journal of the Korean Association for Science Education*, 40(2), 141–150. <https://www.koreascience.or.kr/article/JAKO202015463052236.page%0Ahttp://www.koreascience.or.kr/article/JAKO202015463052236.pdf>

- Sisk, D. A. (2021). J.P. Guilford: A Pioneer of Modern Creativity Research. *Celebrating Giants and Trailblazers: A-Z of Who's Who in Creativity Research and Related Fields*, 171–185. <https://kiecon.org/creativity-books/>
- Steenhuis, H.-J., & Roland, L. (2018). *Project-based learning : how to approach, report, present, and learn from course-long projects*.
- Suryaningsih, S., & Ainun Nisa, F. (2021). Kontribusi STEAM Project Based Learning dalam Mengukur Keterampilan Proses Sains dan Berpikir Kreatif Siswa. *Jurnal Pendidikan Indonesia*, 2(06), 1097–1111. <https://doi.org/10.59141/japendi.v2i06.198>
- Syahputra, A. T., Nurjannah, N., & Arsyam, M. (2020). Pemberian Skor Dan Sistem Penilaian Dalam Pembelajaran. *Jurnal Pendidikan*, 2(1), 1–8.
- Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Titin, T., Ferella, E., & Sundawiyani, G. (2022). Profil Keterampilan Berpikir Kreatif Mahasiswa Pendidikan Biologi Universitas Tanjungpura dalam Mengelola Sampah menjadi Produk. *Bioscientist : Jurnal Ilmiah Biologi*, 10(2), 613. <https://doi.org/10.33394/bioscientist.v10i2.5164>
- Undari, M., Darmansyah, & Desyandri. (2023). Pengaruh Penerapan Model Pjbl (Project-Based Learning) Terhadap Keterampilan Abad 21. *Jurnal Tunas Bangsa*, 10(1), 25–33. <https://doi.org/10.46244/tunasbangsa.v10i1.1970>
- Untari, R. S., Kamdi, W., Dardiri, A., Hadi, S., & Nurhadi, D. (2020). The development and application of interactive multimedia in project-based learning to enhance students' achievement for 2D animation making. *International Journal of Emerging Technologies in Learning*, 15(16), 17–30. <https://doi.org/10.3991/ijet.v15i16.16521>
- Wafi, M. N., Wuryadi, W., & Haryanti, E. H. W. (2020). Metode Pembelajaran Student-Created Case Studies Untuk Meningkatkan Keterampilan Proses Sains Siswa. *Bioma : Jurnal Ilmiah Biologi*, 9(2), 215–228. <https://doi.org/10.26877/bioma.v9i2.7060>
- Wahyudi, W., Efendi, E., Andalas, U., Usman, N. F., Gorontalo, U. N., Shofwan, I., & Semarang, U. N. (2024). *Project-Based Learning dalam Kurikulum Merdeka Belajar* (Nomor September).
- Wardani, N. R., Juariah, J., Nuraida, I., & Widiastuti A, T. T. (2021). Meningkatkan kemampuan berpikir kreatif melalui penerapan model pembelajaran JUCAMA.

Jurnal Analisa, 7(1), 87–98. <https://doi.org/10.15575/ja.v7i1.9904>

Windasari, A. D., & Cholily, Y. M. (2021). Analisis Kemampuan Berpikir Kreatif Siswa Memecahkan Masalah HOTS dalam Setting Model Kooperatif Jigsaw. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, 5(1), 623–631. <https://doi.org/10.31004/cendekia.v5i1.462>

Zuraida. (2022). *Implementasi Model Pembelajaran Project Based Learning Khusus Materi Mengonstruksi Karya Ilmiah Di Kelas Xi Sma Negeri 11 Kota Jambi*. 9, 6–10.

