

DAFTAR PUSTAKA

- Abdurrahman, A., & Rosidin, U. (2020). *Pengembangan Cergam Fisika Berbasis STEM Untuk Menumbuhkan Literasi Sains Pada Siswa SMP*. *Jurnal Pendidikan Fisika*, 12(1), 11-23. <https://doi.org/10.24127/jpf.v8i1.2202>
- Agatha, G. I., Rachmawati, R. C., Ulfah, M., & Priyatna, R. E. (2023). *Implementasi LKPD Berintegrasi dengan QR Code Terhadap Pemahaman Konsep dan Motivasi Belajar Pada Materi Ekosistem*. 09(9), 1526–1540. <https://doi.org/10.36989/didaktik.v9i04.1741>
- Al-Ajmi, B., & Ambusaidi, A. (2022). *The Level of Scientific Argumentation Skills in Chemistry Subject Among Grade 11th Students: The Role of Logical Thinking*. *Science Education International*, 33(1), 66–74. <https://doi.org/10.33828/sei.v33.i1.7>
- Aldilla, E. (2024). *Validity and Practicality of the Physics E-Module Based on the Orientation, Identify, Discussion, Decision, and Engage in Behavior Model to Improve Students' 21 st Century Skills*. *Journal of Research in Science Education*, 10(8), 5768-5774. <https://doi.org/10.29303/jppipa.v10i8.7719>
- Ananda, L. R., Rahmawati, Y., & Khairi, F. (2023). *Critical Thinking Skills of Chemistry Students By Integrating Design Thinking With STEAM-PjBL*. *Journal of Technology and Science Education*, 13(1), 352–367. <http://www.jotse.org/index.php/jotse/article/view/110/142>
- Andaresta, N., & Rachmadiarti, F. (2021). *Pengembangan Buku ajar elektronik Berbasis STEM Pada Materi Ekosistem Untuk Melatihkan Kemampuan Literasi Sains Siswa*. *Berkala Ilmiah Pendidikan Biologi (BioEdu)*, 10(1), 635–646. <https://ejournal.unesa.ac.id/index.php/bioedu>
- Arfiany, N., Ramlawati, R., & Yunus, S. R. (2021). *Pengaruh Model Pembelajaran Argument Driven Inquiry (ADI) Terhadap Peningkatan Keterampilan Argumentasi Dan Hasil Belajar IPA*. *Jurnal Pendidikan Dan Pembelajaran Sains Indonesia (JPPSI)*, 4(1), 24–35. <https://doi.org/10.23887/jppsi.v4i1.31575>

- Asfiyah, M. H. Z., & Admoko, S. (2025). *Pengembangan LKPD Model Pembelajaran Learning Cycle 5e Pada Materi Fluida Dinamis Untuk Meningkatkan Keterampilan Argumentasi Ilmiah Siswa. Inovasi Pendidikan Fisika*, 14(1), 17–24. <https://doi.org/10.26740/ipf.v14n1.p17-24>
- Ashfy, A. C., & Admoko, S. (2024). *Pengembangan Lembar Kerja Berbasis Collaborative Argumentation Learning Model (CALM) Untuk Meningkatkan Keterampilan Argumentasi Ilmiah Materi Pemanasan Global*. 13(2), 120–127.
- Aswirna, P., & Ritonga, A. M. (2020). *Development of Discovery Learning - Based E-Book Teaching Based On KVISOFT FLIPBOOK Maker On Science Literation In MAN 2 Padang Pariam*. 17(2), 47–75. <https://doi.org/10.24239/jsi.v17i2.590.47-79>
- Atmajaya, I. K. A. B., Suma, K., & Sudiatmika, A. A. I. A. R. (2021). *Pengaruh Pembelajaran Berbasis Proyek Yang Difasilitasi dengan E-learning Terhadap Keterampilan Proses dan Hasil Belajar Sains. Wahana Matematika Dan Sains: Jurnal Matematika, Sains, Dan Pembelajarannya*, 15(3), 72–85. <https://doi.org/10.23887/wms.v15i3.37676>.
- Bahtiar, W. A., Nunaki, J. H., & Iwan, I. (2018). *Development of Biology Interactive Learning Multimedia on Animal Tissue Topic in The Class XI IPA in SMA Yapis Manokwari. Inornatus: Biology Education Journal*, 1(1), 42–58. <https://doi.org/10.30862/inornatus.v1i1.26>
- Bernardo, A. B. I., Cordel, M. O., Calleja, M. O., Teves, J. M. M., Yap, S. A., & Chua, U. C. (2023). *Profiling Low-Proficiency Science Students in The Philippines Using Machine Learning. Humanities and Social Sciences Communications*, 10(1). <https://doi.org/10.1057/s41599-023-01705-y>
- Brodny, J., & Kazmierczak, J. (2017). *The Design Thinking Method and Its Stages*. 6(6), 247–255. <https://bibliotekanauki.pl/articles/113710.pdf>
- Brown. (2008). *Design Thinking*. 1–10. <https://doi.org/10.1145/3347709.3347775>
- Castro, M. P., & Zermeno, M. G. G. (2020). *Challenge based learning: Innovative pedagogy for sustainability through e-learning in higher education. Sustainability (Switzerland)*, 12(10), 1–15.

<https://doi.org/10.3390/SU12104063>

- Christodoulou, S. A., & Diakidoy, I. A. N. (2020). *The contribution of Argument Knowledge to The Comprehension and Critical Evaluation of Argumentative Text*. *Contemporary Educational Psychology*, 63, 1–11. <https://doi.org/10.1016/j.cedpsych.2020.101903>
- Demircioğlu, T. (2016). *The Effect of Online Argumentation in Open-ended Physics Experiments on Academic Achievement and The Change in Argumentation Abilities*. *International Journal of Curriculum and Instruction*, 14(2), 1561–1577. <https://creativecommons.org/licenses/by-nc-nd/4.0/>
- Devirita, F., Neviyarni, & Daharnis. (2021). *Pengembangan Buku ajar elektronik Berbasis Problem Based Learning Di Sekolah Dasar*. *Jurnal Basicedu*, 5(2), 469–477. <https://journal.uui.ac.id/ajie/article/view/971>
- Dewi, N. P. S. R., Dewi, N. M. P. S., & Arnyana, I. B. P. (2022). *Pengembangan Flipbook Berbasis PBL Setting Flip Pdf Professional Sebagai Media Pembelajaran Pada Materi Sistem Reproduksi Kelas XI SMA*. *Jurnal Pendidikan Biologi Undiksha*, 9(2), 187–196. <https://ejournal.undiksha.ac.id/index.php/JJPB/article/view/49088>
- Dhamayanti, M., Rachmawati, A. D., Arisanti, N., Setiawati, E. P., Rusmi, V. K., & Sekarwana, N. (2017). *Validitas dan Reliabilitas Kuesioner Skrining Kekerasan terhadap Anak "ICAST-C" versi Bahasa Indonesia*. *Jurnal Keperawatan Padjadjaran*, 5(3), 281–289. <https://doi.org/10.24198/jkp.v5i3.650>
- Dhia Octariani, A. C. P. (2020). *Pengembangan Buku ajar elektronik Biodiversitas Berbasis Kajian Etnobiologi Suku Dayak Losarang*. *ASIMETRIS: Jurnal Pendidikan Matematika Dan Sains*, 1(2), 43–49. <https://doi.org/10.26418/jpmipa.v1i1.37598>
- Diren Agasi, & Desyandri. (2022). *Integrated Thematic Teaching Materials with PjBL Based on Book Creator Application in Grade IV Elementary School*. *Jurnal Ilmiah Sekolah Dasar*, 6(4), 575–583. <https://doi.org/10.23887/jisd.v6i4.52970>
- Durasa, A.A.I.R. Sudiatmika, & I.W. Subagia. (2022). *Analisis Kemampuan*

- Literasi Sains Siswa Smp Pada Materi Pemanasan Global. Jurnal Penelitian Dan Evaluasi Pendidikan Indonesia*, 12(1), 51–36.
<https://doi.org/10.23887/jpepi.v12i1.930>
- Elsbach, K. D., & Stigliani, I. (2018). *Design Thinking and Organizational Culture: A Review and Framework for Future Research. Journal of Management*, 44(6), 2274–2306. <https://doi.org/10.1177/0149206317744252>
- Erduran, S., Simon, S., & Osborne, J. (2004). *Tapping into argumentation: Developments in the application of Toulmin's Argument Pattern for studying science discourse. Science Education*, 88(6), 915–933.
<https://doi.org/10.1002/sce.20012>
- Fadillah, A. R., & Suyono, S. (2024). *Dampak Pembelajaran Argument Driven Inquiry Berbantuan Lembar Penugasan Terstruktur Terhadap Peningkatan Keterampilan Argumentasi Peserta Didik. Jurnal Ilmiah Profesi Pendidikan*, 9(3), 1873–1880. <https://doi.org/10.29303/jipp.v9i3.2496>
- Gallagher, S. E., & Savage, T. (2020). *Challenge-Based Learning in Higher Education: An Exploratory Literature Review*, 28(6), 1135–1157.
<https://doi.org/10.1080/13562517.2020.1863354>
- Grajcevcic, A., & Shala, A. (2020). *A Review of Kosovo's 2015 PISA Results: Analysing the Impact of Teacher Characteristics in Student Achievement. International Journal of Instruction*, 14(1), 489–506.
<https://doi.org/10.29333/IJI.2021.14129A>
- Hadi, K., Dazrullisa, D., Susantini, E., & Kuntjoro, S. (2020). *The Effect of Teachers' Role in Learning on the Learning Outcomes of High School Students*, 3(4), 2774–2783. <https://doi.org/10.33258/birci.v3i4.1287>
- Hanif Batubara, I., Saragih, S., Simamora, E., Elvis Napitupulu, E., & Purnama Sari, I. (2022). *Analysis of Student's Mathematical Communication Skills through Problem Based Learning Models Assisted by Augmented Reality. Budapest International Research and Critics Institute-Journal*, 5(1), 1024–1037. <https://doi.org/10.33258/birci.v5i1.3704>
- Hardianti, F., Setiadi, D., Syukur, A., & Merta, I. W. (2021). *Pengembangan Bahan Ajar Berbasis SETS (Science, Environment, Technology, Society) Untuk*

- Meningkatkan Literasi Sains Peserta Didik. Jurnal Pijar MIPA*, 16(1), 68–74.
<https://doi.org/10.29303/jpm.v16i1.1636>
- Harizaj, A. (2011). *A case study of Albania's participation in PISA 2009*. *Center for Educational Policy Studies Journal*, 1(3), 97–118.
<https://doi.org/10.26529/cepsj.417>
- Haruna, A., & Nahadi. (2021). *Menjelajahi Hubungan Level Argumentasi Dengan Kemampuan Berfikir Kritis Siswa Dalam Menyelesaikan Soal Ikatan Kimia*. *Jurnal Inovasi Pendidikan Kimia*, 15(1), 2686–2694.
<https://doi.org/10.15294/jipk.v15i1.24156>
- Hasanah, N., In'am, A., Darmayanti, R., Choirudin, C., Nurmalitasari, D., & Usmiyatun, U. (2022). *Development of Al-Qur'an Context Math E-Module on Invers Function Materials Using Book Creator Application*. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, 11(4), 3502–3513.
<https://doi.org/10.24127/ajpm.v11i4.5647>
- Hasnunidah, N., & Wiono, W. J. (2019). *Argument Driven Inquiry, Gender, and Its Effects on Argumentation Skills*. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 4(2), 179–188. <https://doi.org/10.24042/tadris.v4i2.4676>
- Haug, B. S., & Mork, S. M. (2021). *Taking 21st Century Skills from Vision to Classroom: What Teachers Highlight as Supportive Professional Development in The Light of New Demands From Educational Reforms*. *Teaching and Teacher Education*, 100, 1–12.
<https://doi.org/10.1016/j.tate.2021.103286>
- Hayati, N., & Azizah, Z. (2021). *Bahan Ajar Elektronik Book Berbasis Kvisoft Flipbook Maker pada Mata Kuliah Penilaian Program PLS*. *Journal of Nonformal Education and Community Empowerment*, 5(2), 139–144.
<https://doi.org/10.15294/jnece.v5i2.50182>
- Helker, K., Bruns, M., Reymen, I. M. M. J., & Vermunt, J. D. (2024). *A Framework For Capturing Student Learning in Challenge-Based Learning*. *Article A Framework for Capturing Student Learning in Challenge-Based Learning*, 26(1), 213–229. <https://doi.org/10.1177/14697874241230459>
- Hendratmoko, A. F., Madlazim, M., Widodo, W., & Sanjaya, I. G. M. (2023). *the*

- Impact of Inquiry-Based Online Learning With Virtual Laboratories on Students' Scientific Argumentation Skills. Turkish Online Journal of Distance Education*, 24(4), 1–20. <https://doi.org/10.17718/tojde.1129263>
- Hennessey, E., & Mueller, J. (2020). *Teaching And Learning Design Thinking (DT): How Do Educators See DT Fitting into The Classroom? Canadian Journal of Education*, 43(2), 498–521. <https://www.jstor.org/stable/10.2307/26954696>
- Henriksen, D., Gretter, S., & Richardson, C. (2020). *Design Thinking and the Practicing Teacher: Addressing Problems of Practice in Teacher Education. Teaching Education*, 31(2), 209–229. <https://doi.org/10.1080/10476210.2018.1531841>
- Hernawan, A. H., Permasih, & Dewi, L. (2008). *Panduan Pengembangan Bahan Ajar. Depdiknas Jakarta*, 1–13.
- Jannah, A. M., Suwono, H., & Tenzer, A. (2020). *Profile and Factors Affecting Students' Scientific Literacy of Senior High Schools. AIP Conference Proceedings*, 2215(April). <https://doi.org/10.1063/5.0000568>
- Hufri, Hanazahra, A., Hidayati, & Hidayat, R. (2025). *Practicality of E-Modules Based on Contextual Teaching and Learning Models on Renewable Energy Material for Phase E Students. Jurnal of Physics Learning Research*, 11(1), 24–34. <https://doi.org/10.24036/jppf.v11i1.10>
- I Wayan Redhana, Suardana, I. N., & Sudria, I. B. N. (2026). *A Socio-cognitive Conflict-Integrated Challenge-based Learning Model to Improve Scientific Argumentation Skills and Scientific Literacy. 11(1)*, 1–14. <https://doi.org/10.29333/pr/17917>
- Jeanne Liedtka. (2013). *Design Thinking: What it is and Why it Works*. <https://idacademy.ir/wp-content/uploads/2025/04/DSWP13-01rev2-1.pdf>
- Kinanti, L. P., & Sudirman, S. (2018). *Analisis Kelayakan Isi Materi Dari Komponen Materi Pendukung Pembelajaran Dalam Buku Teks Mata Pelajaran Sosiologi Kelas XI SMA Negeri Di Kota Bandung. Sosieta*, 7(1), 341–345. <https://doi.org/10.17509/sosietas.v7i1.10347>
- Kholisoh, S. N., Miriam, S., & Mahtari, S. (2023). *Pengembangan Materi Ajar*

- Elektronik Berbantuan Komik pada Materi Fluida Statis untuk Meningkatkan Minat Belajar Peserta Didik. Kappa Journal, 7(2), 256-263. <https://doi.org/10.29408/kpj.v7i2.12430>*
- Kohn Rådberg, K., Lundqvist, U., Malmqvist, J., & Hagvall Svensson, O. (2020). *From CDIO to Challenge-Based Learning Experiences – Expanding Student Learning as Well as Societal Impact, 45(1), 22–37. <https://doi.org/10.1080/03043797.2018.1441265>*
- Kurniawan, R., & Winarsih. (2022). *Pengembangan Buku ajar elektronik Berbasis Inkuiri pada Materi Ekosistem untuk Melatih Keterampilan Literasi Sains Peserta Didik Kelas X SMA. Berkala Ilmiah Pendidikan Biologi (BioEdu), 11(1), 250–262. <https://doi.org/10.26740/bioedu.v11n1.p250-262>*
- Leijon, M., Gudmundsson, P., Staaf, P., & Christersson, C. (2022). *Challenge Based Learning in Higher Education– A Systematic Literature Review, 59(5), 609–618. <https://doi.org/10.1080/14703297.2021.1892503>*
- Lestari, D. D., & Muchlis. (2021). *E-LKPD Berorientasi Contextual Teaching and Learning Untuk Melatih Keterampilan Berpikir Kritis Siswa Pada Materi Termokimia. Jurnal Pendidikan Kimia Indonesia, 5(1), 25-33. <https://doi.org/10.23887/jpk.v5i1.30987>*
- Lia, H., Abdurrahman, & Herlina, K. (2024). *Implementation Of STEM Based PBL With Design Thinking Strategies to Improve Students Creative Problem Solving Capability on Renewable Energy Tropics. Riset Dan Kajian Pendidikan Fisika, 11(2), 80–87. <https://doi.org/10.12928/jrkpf.v11i2.783>*
- Liana, C. (2023). *Pengaruh Media Pembelajaran QR Code Berbasis Problem Based Learning Terhadap Kemampuan Berpikir Rasional Siswa Kelas X SMAN 3 Sidoarjo. E-Journal Pendidikan Sejarah, 14(1), 1-8.*
- Lobczowski, N. G., Allen, E. M., Firetto, C. M., Greene, J. A., & Murphy, P. K. (2020). *An Exploration of Social Regulation of Learning During Scientific Argumentation Discourse. Contemporary Educational Psychology, 63(101925), 1–17. <https://doi.org/10.1016/j.cedpsych.2020.101925>*
- Lubis, P. H., Sugiarti, Hakim, L., Sulistiawati, Lefudin, & Lia, L. (2023). *Pelatihan Pembuatan E-Modul dan Buku ajar elektronik Berbantuan Flipbook di SMAN*

15 OKU. *Jurnal PkM Ilmu Pendidikan*, 6(1), 233–240.

Maharani, A. A. P., & Santosa, M. H. (2021). *The Implementation of Process Approach Combined with Screencast-O-Matic and Book Creator to Improve Students' Argumentative Writting*. *LLT Journal: A Journal on Language and Language Teaching*, 24(1), 12–22.

Makdis, N. (2020). *Penggunaan Buku Ajar Elektronik Pada Era Digital*. *Al-Maktabah*, 19, 77–84. <http://journal.uinjkt.ac.id/index.php/al-maktabah/article/download/21058/8876>

Man, M. Z. G., Riyan Hidayat, M., Kashmir, K., Suhaimi, N. F., Adnan, M., & Saswandila, A. (2022). *Design Thinking in Mathematics Education for Primary School: a Systematic Literature Review*. *Alifmatika: Jurnal Pendidikan Dan Pembelajaran Matematika*, 4(1), 17–36. <https://doi.org/10.35316/alifmatika.2022.v4i1.17-36>

Mardian, V., Asrizal, Akmam, Sari, S. Y., & Nursanty, I. (2022). *Practicality of STEM Integrated Electronic Physics Teaching Material On Elasticity Materials To Improve 21st Century Skills Of Students*. 15(1), 1–10. <https://doi.org/10.24036/12193171074>

Masito, F., Oka, I. G. A. A. M., Cahyadi, C. I., Komalasari, Y., Anes, A. M., & Risdianto, E. (2022). *Scientific Argumentation Skills Through The Rasch Model on Analysis of Survey Data on The Importance of Aviation Vocational Education in Indonesia*. *Journal of Innovation in Educational and Cultural Research*, 3(3), 487–498. <https://doi.org/10.46843/jiecr.v3i3.178>

Mosely, G., Wright, N., & Wrigley, C. (2018). *Facilitating Design Thinking: A Comparison of Design Expertise*. *Thinking Skills and Creativity*, 27, 177–189. <https://doi.org/10.1016/j.tsc.2018.02.004>

Mukarromah, M., Budijanto, B., & Utomo, D. H. (2020). *Pengaruh Model Challenge Based Learning terhadap Kemampuan Berpikir Kritis Siswa SMA pada Materi Perubahan Iklim*. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, 5(2), 214. <https://doi.org/10.17977/jptpp.v5i2.13176>

Muna, A. N., & Rusmini. (2021). *Pengembangan Lembar Kerja Peserta Didik Untuk Melatih Keterampilan Argumentasi Ilmiah Peserta Didik Pada Materi*

- Laju Reaksi. UNESA Journal of Chemical Education*, 10(2), 159–171.
<https://doi.org/10.26740/jppms.v7n2.p37-44>
- Muslim, Sihombing, R. A., Zakwandi, R., & Karimi, A. (2024). *Evaluating Students Argumentation Skills Using An Argument-Generating Learning Model Supported Toulmins Argumentation Pattern In Physics Concepts. Jurnal Pendidikan IPA Indonesia*, 13(4), 606–622.
<https://doi.org/10.15294/jpii.v13i4.13139>
- Nakata, C., & Hwang, J. (2020). *Design thinking for innovation: Composition, Consequence, and Contingency. Journal of Business Research*, 118(June), 117–128. <https://doi.org/10.1016/j.jbusres.2020.06.038>
- Nichols, M., Cator, K., & Torres, M. (2016). *Challenge Based Learning Guide. Digital Promise and The Challenge Institute*, November, 59.
- Ningsih, F. S., & Ulya, H. K. (2024). *Pemanfaatan Buku Ajar Elektronik Sebagai Sumber Belajar pada Kurikulum Merdeka. Revorma: Jurnal Pendidikan Dan Pemikiran*, 4(1), 45–53. <https://doi.org/10.62825/revorma.v4i1.98>
- Noroozi, O., Dehghanzadeh, H., & Talaei, E. (2020). *A Systematic Review on The Impacts of Game-based Learning on Argumentation Skills. Entertainment Computing*, 35(100369), 1–14. <https://doi.org/10.1016/j.entcom.2020.100369>
- Noviyanti, N. I., Rosyadah Mukti, W., Dahlia Yuliskurniawati, I., Mahanal, S., & Zubaidah, S. (2019). *Students' Scientific Argumentation Skills Based on Differences in Academic Ability. Journal of Physics: Conference Series*, 1241(1), 1–9. <https://doi.org/10.1088/1742-6596/1241/1/012034>
- Nur Aura Ladistya Novanda, Supeno, & Aris Singgih Budiarmo. (2024). *Pengembangan LKPD Berbasis Etnosains untuk Meningkatkan Kemampuan Argumentasi Ilmiah Siswa SMP pada Pembelajaran IPA. Jurnal Pendidikan MiIPA*, 14(1), 8–18. <https://doi.org/10.37630/jpm.v14i1.1435>
- Nurhidayati, E., Masykuri, M., Isma, D., & Fakhruddin, A. (2023). *Pengaruh Model Pembelajaran Argument Driven Inquiry (ADI) Dengan Pendekatan STEM Terhadap Keterampilan Argumentasi Pada Materi Cahaya dan Alat Optik. Jurnal Pendidikan IPA*, 12(3), 171–182.
<https://doi.org/10.20961/inkuiri.v12i3.79317>

- OECD. (2022). Pisa 2022. In *Perfiles Educativos* (Vol. 46, Issue 183).
<https://doi.org/10.22201/iisue.24486167e.2024.183.61714>
- Osborne, J. F., Borko, H., Fishman, E., Gomez Zaccarelli, F., Berson, E., Busch, K. C., Reigh, E., & Tseng, A. (2019). *Impacts of a Practice-Based Professional Development Program on Elementary Teachers' Facilitation of and Student Engagement with Scientific Argumentation*. *American Educational Research Journal*, 56(4), 1067–1112. <https://doi.org/10.3102/0002831218812059>
- Pande, M., & Bharathi, S. V. (2020). *Theoretical Foundations of Design Thinking—a Constructivism Learning Approach to Design Thinking*. *Thinking Skills and Creativity*.
<https://www.sciencedirect.com/science/article/pii/S1871187119303104>
- Panke, S., & Harth, T. (2019). *Design Thinking for Inclusive Community Design:(How) Does It Work?.* *Journal of Interactive Learning Research*.
<https://www.learntechlib.org/primary/p/184532/>
- Paramita, A. K., Yahmin, & Dasna, I. W. (2020). *Pembelajaran Inkuiri Terbimbing dengan Pendekatan STEM (Science, Technology, Engineering, Mathematics) untuk Pemahaman Konsep dan Keterampilan Argumentasi Siswa SMA pada Materi Laju Reaksi*. *Jurnal Pendidikan*, 5(11), 1652–1663.
<https://doi.org/10.17977/jptpp.v5i11.14189>
- Perdana, R., Riwayani, Jumadi, J., & Rosana, D. (2020). *Modification Level and Test of Scientific Argumentation Skill: Development and Validity*. *International Journal of Evaluation and Research in Education*, 9(3), 769–777. <https://doi.org/10.11591/ijere.v9i3.20594>
- Prasetyo, N. A., & Perwiraningtyas, P. (2017). *Pengembangan Buku ajar elektronik Berbasis Lingkungan Hidup pada Mata kuliah Biologi di Universitas Tribhuwana Tungadewi*. *Jurnal Pendidikan Biologi Indonesia*, 3(1), 19–27. <http://ejournal.umm.ac.id/index.php/jpbi>
- Pratiwi, W., & Lestari, N. A. (2024). *Validitas Lembar Kerja Peserta Didik (LKPD) Berbasis Problem Based Learning (PBL) Materi Pemanasan Global Untuk Meningkatkan Kemampuan Literasi Sains Fase E SMA / MA*. *Inovasi Pendidikan Fisika*, 13(2), 79–85.

<https://doi.org/10.29303/jcar.v7iSpecialIssue.10476>

- Prawiyogi, A. G., Fitri, A., & Suhardiman, S. (2020). *Use Of Big Book Media Towards Interest in Reading Elementary School Students. International Journal of Theory and Application in Elementary and Secondary School Education*, 2(1), 8–11. <https://doi.org/10.31098/ijtaese.v2i1.164>
- Putri, N. A., & Rachmadiarti, F. (2021). *Pengembangan Buku ajar elektronik Berbasis Inkuiri pada Materi Perubahan Lingkungan untuk Melatih Kemampuan Literasi Sains Siswa Kelas X SMA. Berkala Ilmiah Pendidikan Biologi*, 11(1), 179–193. <https://doi.org/10.26740/bioedu.v11n1.p179-193>
- Purwasi, L. A., & Fitriyana, N. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis HOTS. Jurnal Pendidikan Matematika*, 9(4), 894–908. <https://doi.org/10.24127/ajpm.v9i4.3172>
- Putu, D., Nadi, M., Bagus, I., Arnyana, P., & Adnyana, P. B. (2025). *Validitas dan Kepraktisan Bahan Ajar Biologi pada Materi Sistem Pertahanan Tubuh Berbasis Augmented Reality (AR) untuk Peserta Didik Kelas XI SMA. Wahana Matematika Dan Sains: Jurnal Matematika, Sains, Dan Pembelajarannya*, 19(2), 91-101. <https://doi.org/10.23887/wms.v19i2.101828>
- Rafidah, H. N., & Rachmadiarti, F. (2022). *Pengembangan Buku Ajar Elektronik Berbasis Collaborative Learning Pada Sub Materi Pencemaran Lingkungan Untuk Melatih Keterampilan Literasi Sains Siswa Kelas X SMA. 11(2)*, 418–433. <https://ejournal.unesa.ac.id/index.php/bioedu>
- Rahayu, Y., Suhendar, S., & Ratnasari, J. (2020). *Keterampilan Argumentasi Siswa Pada Materi Sistem Gerak SMA Negeri Kabupaten Sukabumi-Indonesia. BIODIK: Jurnal Ilmiah Pendidikan Biologi*, 6(3), 312–318. <https://doi.org/10.22437/bio.v6i3.9802>
- Rahmadani, F., Setiadi, D., Yamin, M., & Kusmiyati, K. (2022). *Analisis Kemampuan Literasi Sains Biologi Peserta Didik SMA Kelas X di SMAN 1 Kuripan. Jurnal Ilmiah Profesi Pendidikan*, 7(4b), 2726–2731. <https://doi.org/10.29303/jipp.v7i4b.1059>
- Riti, Y. U. R., Degeng, I. N. S., & Sulton, S. (2021). *Pengembangan Model Pembelajaran Berbasis Proyek dengan Menerapkan Metode Design Thinking*

- untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Dalam Mata Pelajaran Kimia. *Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan*, 6(10), 1581–1587. <https://doi.org/10.17977/jptpp.v6i10.15056>
- Salle, D. La. (2017). *Design Thinking in Education: A Critical Review of Literature*. <https://www.researchgate.net/publication/324684320>
- Sampson, V., & Clark, D. (2009). *The Impact of Collaboration on the Outcomes of Scientific Argumentation*. *Science Education*, 93(3), 448–484. <https://doi.org/10.1002/sce.20306>
- Sanjaya, P. A., Made Pageh, I., & Suastika, I. N. (2023). *Bahan Ajar E-Modul Book Creator untuk Pembelajaran IPS Berdiferensiasi di Sekolah Penggerak*. *Jurnal Ilmiah Pendidikan Profesi Guru*, 6(2), 410–421. <https://doi.org/10.23887/jippg.v6i2.64252>
- Saputro, V. C. E. (2022). *Analisis Kemampuan Literasi Sains Biologi Peserta Didik Madrasah Aliyah Jabal Noer Sidoarjo*. *Allimna: Jurnal Pendidikan Profesi Guru*, 1(2), 21–34. <https://doi.org/10.30762/allimna.v1i2.696>
- Sardi, A., Palimari, & Rahmayani, S. (2022). *Peningkatan Kemampuan Berpikir Kritis Siswa Melalui Challenge Based Learning*, 1(2), 70–85. <https://doi.org/10.58917/ijpe.v1i2.31>
- Septiani, D. A., & Muksin, Y. D. (2021). *Penerapan Hasil Pengembangan Media Pembelajaran Berbasis Aplikasi Youtube Terintegrasi 5M untuk Meningkatkan Kemampuan Argumentasi Ilmiah Peserta Didik Kelas X pada Materi Ajar Ekosistem di SMAN 1 Mataram*. *Pengabdian Magister Pendidikan IPA*, 20, 1–5. <https://doi.org/10.29303/jpmpi.v3i2.669>
- Setiawan, T. Y., & Fikri, A. (2022). *The Development of E-LKPD Using Book Creator on Fraction Operations Material in Elementary School*. *MaPan*, 10(1), 116–126. <https://doi.org/10.24252/mapan.2022v10n1a8>
- Simon, S. (2008). *Using Toulmin's Argument Pattern in the Evaluation of Argumentation in School Science*. *International Journal of Research and Method in Education*, 31(3), 277–289. <https://doi.org/10.1080/17437270802417176>
- Suardika, I. G. P. (2019). *Pengembangan Buku ajar elektronik Biologi Berbasis*

- Argumen Toulmin untuk Siswa Kelas X SMA. Wahana Matematika Dan Sains: Jurnal Matematika, Sains, Dan Pembelajarannya*, 13(2), 128–143. <https://ejournal.undiksha.ac.id/index.php/JPM/article/download/16086/pdf>
- Suparya, I. K., I Wayan Suastra, & Putu Arnyana, I. B. (2022). *Rendahnya Literasi Sains: Faktor Penyebab Dan Alternatif Solusinya. Jurnal Ilmiah Pendidikan Citra Bakti*, 9(1), 153–166. <https://doi.org/10.38048/jipcb.v9i1.580>
- Suraya, S., Setiadi, A. E., & Muldayanti, N. D. (2019). *Argumentasi Ilmiah Dan Keterampilan Berpikir Kritis Melalui Metode Debat. Edusains*, 11(2), 233–241. <https://doi.org/10.15408/es.v11i2.10479>
- Suryanda, A., Azrai, E. P., & Julita, A. (2020). *Analisis Kebutuhan Pengembangan Buku Saku Biologi Berbasis Mindmap (Biomap). Jurnal Pendidikan Matematika Dan IPA*, 11(1), 86–98. <https://doi.org/10.26418/jpmipa.v11i1.31861>
- Sutrisna, N. (2021). *Analisis Kemampuan Literasi Sains Peserta Didik SMA di Kota Sungai Penuh. Jurnal Inovasi Penelitian*, 1(12), 2683–2694. <https://stp-mataram.e-journal.id/JIP/article/view>
- Syerliana, L., Muslim, & Setiawan, W. (2018). *Argumentation Skill Profile using “Toulmin Argumentation Pattern” Analysis of High School Student at Subang on Topic Hydrostatic Pressure. Journal of Physics: Conference Series*, 1013(1), 1–5. <https://doi.org/10.1088/1742-6596/1013/1/012031>
- Takda, A., & Tahang, L. (2023). *Penerapan Model Pembelajaran Learning Cycle 7E Berbantuan Physics Education Technology (Phet) Simulation Untuk Meningkatkan Literasi Sains Peserta Didik di SMAN 2 Pasarwajo. Penelitian Pendidikan Fisika*, 8(2), 81–89. <https://jipfi.uho.ac.id/index.php/journal%0Ap-ISSN>
- Utama, M. N., Ramadhani, R., Rohmani, S. N., & Prayitno, B. A. (2019). *Profil Keterampilan Literasi Sains Siswa di Salah Satu Sekolah Menengah Atas (SMA) Negeri di Surakarta. Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, 3(2), 57–67. <https://doi.org/10.32502/dikbio.v3i2.1296>
- Von Thienen, J. P. A., Clancey, W. J., Corazza, G. E., & Meinel, C. (2018). *Theoretical Foundations of Design Thinking Part I: John E. Arnold’s Creative*

- Thinking Theories. Design Thinking Research, Understanding Innovation*, November 2018, 13–40. <https://doi.org/10.1007/978-3-319-60967-6>
- Wijarini, F. (2020). *Development of Microbiology Textbook as General Microbiology Learning Resources for Department of Biology Education Students, University of Borneo Tarakan*. 2(2), 130–137. <http://download.garuda.kemdikbud.go.id/article.php?article=2463181&val=23439>
- Wirawati, D., & Rahman, H. (2020). *Pengembangan Buku ajar elektronik Komprehensi Tulis Berorientasi Nilai-Nilai Karakter Islam (Analisis Kebutuhan)*. Kode: Jurnal Bahasa, 9(4), 72–83. <https://doi.org/10.24114/kjb.v9i4.22030>
- Wulandari, A., Yektyastuti, R., & Effane, A. (2023). *Pengaruh Model Pembelajaran Project-Based Learning Berbasis STEM Design Thinking Terhadap Keterampilan Berpikir Kritis Siswa Sekolah Dasar*. *National Conference of Islamic Natural Science*, 03, 228–239. <https://doi.org/10.30997/dt.v10i2.9618>
- Yang, C. M., & Hsu, T. F. (2020). *Integrating Design Tinking into a Packaging Design Course to Improve Students' Creative Self-efficacy and Flow Experience*. *Sustainability* (Switzerland), 12(15). <https://doi.org/10.3390/SU12155929>
- Zairina, S., & Hidayati, S. N. (2022). *Analisis Keterampilan Argumentasi Siswa SMP Berbantuan Socio-Scientific Issue Pemanasan Global*. *PENSA E-Jurnal: Pendidikan Sains*, 10(1), 37–43. <https://ejournal.unesa.ac.id/index.php/pensa>
- Zhang, J., & Browne, W. J. (2022). *Exploring Chinese High School Students' Performance and Perceptions of Scientific Argumentation by Understanding it as a Three-component Progression of Competencies*. *Journal of Research in Science Teaching*, 847–884. <https://doi.org/10.1002/tea.21819>