

DAFTAR PUSTAKA

- Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for Teaching Students to Think Critically: A Meta-Analysis. *Review of Educational Research*, 85(2), 275–314. <https://doi.org/10.3102/0034654314551063>
- Ahmad Rivai & Nana Sudjana. (2013). *Media Pengajaran (Penggunaan dan Pembuatannya)*. Bandung: Sinar Baru Algensindo.
- Afaf Afifah. (2020). Pengembangan E-Modul Pada Mata Kuliah Kompetensi Pembelajaran Di Program Studi Pendidikan Teknik Bangunan, Universitas Negeri Jakarta. *Jurnal PenSil*, 9(2), 117–124. <https://doi.org/10.21009/jpensil.v9i2.11950>
- Affandy, H., Aminah, N. S., & Supriyanto, S. (2019). zzzz Analisis keterampilan berpikir kritis siswa pada materi fluida dinamis di SMA Batik 2 Surakarta. *Jurnal Materi Dan Pembelajaran Fisika*, 9(1), 25–33.
- Afzal, M. N. (2004). Students' misconception in respiratory physiology. *Journal of Ayub Medical College*, 16(3), 14–16.
- Alatas, Fathiah . Hubungan Pemahaman Konsep Dengan Keterampilan Berpikir Kritis Melalui Model Pembelajaran Treffinger Pada Mata Kuliah Fisika Dasar, *Edusains*, Vol. VI, No. 01, 2014, Hal. 88
- Amini, R., Usmeldi. (2022). Developing the Interactive e-Module Based on Integrated Learning for Primary School Students. *International Journal of Information and Education Technology*, Vol. 12, No. 4, April 2022. [doi: 10.18178/ijiet.2022.12.4.1615](https://doi.org/10.18178/ijiet.2022.12.4.1615)
- Aminy, R., Huzaifah, S., & Santri, D. J. (2017). Pengembangan materi pembelajaran sistem koordinasi manusia memanfaatkan fitur edmodo untuk sekolah menengah atas. *Jurnal Pembelajaran Biologi*. 4(1). 28–42.
- Asri, A. S. T., & Dwiningsih, K. (2022). Validitas E-Modul Interaktif sebagai Media Pembelajaran untuk Melatih Kecerdasan Visual Spasial pada Materi Ikatan Kovalen. *PENDIPA Journal of Science Education*, 6(2), 465–473. <https://doi.org/10.33369/pendipa.6.2.465-473>
- Atikah, N., Djulia, E., & Silitonga, M. (2018). The Effects of Guided Inquiry and Modified Free Inquiry Learning Models on Students' Higher Order Thinking Skills for the Topic of Human Respiratory System at SMA Negeri 1 Labuhan Deli. *Proceedings of the 3rd Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2018)*, 828–831. <https://doi.org/10.2991/aisteel-18.2018.180>
- Badriah, Liah. Perbedaan Hasil Belajar Dan Kemampuan Berpikir Kritis Mahasiswa Pendidikan Biologi Menggunakan Pendekatan Pembelajaran

Deduktif Dan Induktif Pada Konsep Ekosistem, Bioedusiana, Vol. 1, No, 1, 2016, Hal. 54

- Bartsch, R. A., & Cobern, K. M. (2003). Effectiveness of PowerPoint presentations in lectures. *Computers and Education*, 41(1), 77–86. [https://doi.org/10.1016/S0360-1315\(03\)00027-7](https://doi.org/10.1016/S0360-1315(03)00027-7)
- Bell, R., Smetana, L., & Binns, I. (2005). Simplifying inquiry instruction. *The Science Teacher*, 72(7), 30–33. https://www.researchgate.net/publication/228665515_Simplifying_inquiry_instruction
- Bezanilla, M. J., Fernández-Nogueira, D., Poblete, M., & G.-. (2019). Methodologies for teaching-learning critical thinking in higher education: The teacher's view. *Thinking Skills and Creativity*, 33(June), 100584. <https://doi.org/10.1016/j.tsc.2019.100584>
- Budiarti, S., Nuswowati, M., & Cahyono, E. (2016). Guided Inquiry Berbantuan E-Modul Untuk Meningkatkan Keterampilan Berpikir Kritis. *Journal of Innovative Science Education*, 1(1), 1–9. <https://www.insightassessment.com/CT-Resources/Teaching-For-and-About-Critical-Thinking/Critical-Thinking-What-It-Is-and-Why-It-Counts/Critical-Thinking-What-It-Is-and-Why-It-Counts-PDF>
- Churiyah, M., Aulia, A., & Eko, B. (2020). Collage Students' usage of E-Module Practicum for Increase SRL. *Basic and Applied Research (IJSBAR)*, 54 170–185.
- Conklin, J. (2005). [Review of *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives Complete Edition*, by L. W. Anderson, D. Krathwohl, P. Airasian, K. A. Cruikshank, R. E. Mayer, P. Pintrich, J. Rath, & M. C. Wittrock]. *Educational Horizons*, 83(3), 154–159. <http://www.jstor.org/stable/42926529>
- Danvers, E. (2019). Individualised and instrumentalised? Critical thinking, students and the optics of possibility within neoliberal higher education. *Critical Studies in Education*, 0(0), 1–16. <https://doi.org/10.1080/17508487.2019.1592003>
- Daryanto. (2013). *Media Pembelajaran*. Gava Media.
- Dekker, T. J. (2020). Teaching critical thinking through engagement with multiplicity. *Thinking Skills and Creativity*, 37(May), 100701. <https://doi.org/10.1016/j.tsc.2020.100701>
- de Lira, C. A. B., de Moraes, S. P., Vancini, R. L., & Andrade, M. S. (2019). Criticizing a didactic model for teaching respiratory mechanics for high school students. *Advances in Physiology Education*, 43(3), 251–252. <https://doi.org/10.1152/advan.00046.2019>
- Dermawan & Fahmi, R. (2020). Pengembangan e-modul berbasis web pada mata pelajaran pembuatan busana industri. *Jurnal Pedagogi Dan Pembelajaran*, 3(3), 508–515.

- Facione. (2015). *Critical thinking: What It Is and Why It Counts*. California: Measured Reasons and The California Academic Press.
- Facione, P. A. (2011). *Critical thinking: What it is and why it counts*. Insight Assessment.
- Febrista, D., & Efrizon, E. (2021). Pengembangan e-Modul Interaktif Berbasis Android pada Mata Pelajaran Penerapan Rangkaian Elektronika Kelas XI Teknik Audio Vidio. *Voteteknika (Vocational Teknik Elektronika Dan Informatika)*, 9(3), 102–110. <https://doi.org/10.24036/voteteknika.v9i3.113750>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Sage Publications.
- Furtak, E. M., Seidel, T., Iverson, H., & Briggs, D. C. (2012). Experimental and Quasi-Experimental Studies of Inquiry-Based Science Teaching: A Meta-Analysis. *Review of Educational Research*, 82(3), 300–329. <https://doi.org/10.3102/0034654312457206>
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486–489. <https://doi.org/10.5812/ijem.3505>
- Ghozali, Imam. 2009. “Aplikasi Analisis Multivariate dengan Program SPSS “. Semarang : UNDIP.
- Gojkov, G., Stojanović, A., & Rajić, A. G. (2015). Critical Thinking of Students – Indicator of Quality in Higher Education. *Procedia - Social and Behavioral Sciences*, 191(2012), 591–596. <https://doi.org/10.1016/j.sbspro.2015.04.501>
- Grussendorf, J., & Rogol, N. C. (2018). Reflections on Critical Thinking: Lessons from a Quasi-Experimental Study. *Journal of Political Science Education*, 14(2), 151–166. <https://doi.org/10.1080/15512169.2017.1381613>
- Hannafin, M. J., Peck, L. L. 1998. *The Design Development and Education of Instructional Software*. New York: Mc. Millan Publ., Co Hyytinen, H., Toom, A., & Postareff, L. (2018). Unraveling the complex relationship in critical thinking, approaches to learning and self-efficacy beliefs among first-year educational science students. *Learning and Individual Differences*, 67(August), 132–142. <https://doi.org/10.1016/j.lindif.2018.08.004>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson Education.
- Hariani, N. R., Nuswowati, M., & Winarno. (2019). Pengaruh Penerapan Model Inkuiri Terbimbing Berbantuan E-Modul Terhadap Pemahaman Konsep Inkuiri Garam. *Jurnal Inovasi Pendidikan Kimia*, 14(1), 2561–2571. <https://doi.org/10.15294/jipk.v14i1.21553>

- Herawati, N, S, & Muhtadi, A. (2018). Pengembangan modul elektronik (e- modul) interaktif pada mata pelajaran kimia kelas XI SMA. *Jurnal Inovasi Teknologi Pendidikan*, 5(2), 180–191. <http://journal.uny.ac.id/index.php/jitp%0A>
- Heuvelen, A.A. 2001. Millikan Lecture 1999. The Workplace, Student Minds, and Physics Learning Systems. *Am. J. Phys.* 69(11):1139-1146.
- Hitchcock, D. (2017). Critical Thinking as an Educational Ideal. In *On reasoning and argument* (pp. 477–497). Springer. https://doi.org/10.1007/978-3-319-53562-3_30
- Hmelo-silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and Achievement in Problem-Based and Inquiry Learning : A Response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42(2), 99–107. <https://doi.org/10.1080/00461520701263368>
- Hodson, D. 1996. Practical work in school science: exploring some directions for change. *Int. J. Sci. Educ.* 18(7):755-760.
- Jauhar, Mohammad, Implementasi Paikem dari Behavioristik Sampai konstruktivistik. Jakarta: Prestasi pustaka. 2011.
- Jaenudin, A., Baedhowi, P., & Murwaningsih, T. (2017). The Effectiveness of the E-Module of Economics Learning on Problem-Based Learning used to Improve Students' Learning Outcomes. 158(Ictte), 30–36. <https://doi.org/10.2991/ictte-17.2017.32>
- Jiamwattanapong, K., Ingadapa, N., & Plubin, B. (2021). On Testing Homogeneity of Covariance Matrices with Box 's M and the Approximate Tests for Multivariate Data. *European Journal of Applied Sciences*, 9(5), 426–436. <https://doi.org/10.14738/aivp.95.11115>
- Johnson, R. A., & Wichern, D. W. (2007). *Applied multivariate statistical analysis* (5th ed.). Prentice Hall.
- Kemendikbudristek. (2023). Laporan Pisa Kemendikbudristek. *Pemulihan Pembelajaran Indonesia*, 1–25.
- Kline, R. B. (2016). *Principles and Practice of Structural Equation Modeling* (4th ed.). The Guilford Press.
- Lalang, A. C., & Ibnu, S., & Sutrisno. (2017). Kemampuan Berpikir Kritis dan Pemahaman Konseptual Siswa dengan Inkuiri Terbimbing Dipadu Pelatihan Metakognisi pada Materi Kelarutan dan KSp. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 1(2), 12–21.
- Laraphaty, N. F. R., Riswanda, J., Anggun, D. P., Maretha, D. E., & Ulfa, K. (2021). Review: PENGEMBANGAN MEDIA PEMBELAJARAN MODUL ELEKTRONIK (E-MODUL). *Prosiding Seminar Nasional Pendidikan Biologi*, 145–156. <http://proceedings.radenfatah.ac.id/index.php/semnaspbio>
- Lawson, A.E. 1995. Science Teaching and the Development of Thinking.

California: Wadsworth Publishing Company.

- Lazonder, A. W., & Harmsen, R. (2016). Meta-Analysis of Inquiry-Based Learning : Effects of Guidance. *Review of Educational Research*, 86(3), 1–38. <https://doi.org/10.3102/0034654315627366>
- Lestari, A., Ramdani, A., & Bachtiar, I. (2023). Validitas Modul Elektronik Berbasis Socio-Scientific Issues (SSI) Materi Zat Aditif dan Zat Adiktif Untuk Meningkatkan Kemampuan Argumentasi Ilmiah Dan Pemahaman Konsep IPA. *Journal of Classroom Action Research*, 5(1), 137–142. <https://doi.org/10.29303/jcar.v5i1.2870>
- Lippmann, R.F. 2003. Students' Understanding of Measurement and Uncertainty in the Physics Laboratory: Social construction, underlying concepts, and quantitative analysis. Dissertation. Maryland: Department of Physics, University of Maryland. Tersedia: <http://www.physics.umd.edu/perg/dissertation/lippmann.html> [25 September 2003].
- Made, P., Pramana, A., Suarni, N. K., & Margunayasa, I. G. (2024). Relevansi Teori Belajar Konstruktivisme dengan Model Inkuiri Terbimbing terhadap Hasil Belajar Siswa. 9(2), 487–493. <https://doi.org/10.51169/ideguru.v9i2.875>
- Mahyuddin, R. S., Wati, M., & Misbah, M. (2017). Pengembangan Media Pembelajaran Fisika Berbasis Zoomable Presentation Berbantuan Software Prezi Pada Pokok Bahasan Listrik Dinamis. *Berkala Ilmiah Pendidikan Fisika*, 5(2), 229. <https://doi.org/10.20527/bipf.v5i2.3588>
- Maknun, J. (2020). Implementation of Guided Inquiry Learning Model to Improve Understanding Physics Concepts and Critical Thinking Skill of Vocational High School Students. *International Education Studies*, 13(6), 117. <https://doi.org/10.5539/ies.v13n6p117>
- Marvira, S., & Iryani. (2024). Validitas E-modul Berbasis Problem Based Learning pada Materi Keseimbangan Kimia Fase F Kelas XI. *Jurnal Pendidikan Tambusai*, 8(1), 9656–9665. <https://doi.org/10.31004/jptam.v8i1.13851>
- McDermott, L.C., P.S. Shafer, and M.L. Rosenquist. 1996. Physics by Inquiry. Volume I and II. New York: John Wiley & Sons, Inc.
- Mcmilan, Eileen. Holism: A Concept Analysis, *International Journal of Nursing & Clinical Practices*, Vol. 5, 2018, Hal. 1
- Mecklin, C. J., & Mundfrom, D. J. (2005). A Monte Carlo comparison of the Type I and Type II error rates of tests of multivariate normality. *Journal of Statistical Computation and Simulation*, 75(2), 93–107. <https://doi.org/10.1080/0094965042000193233>
- Miftakhurrohman, N. L., Masykuri, M., Ariyani, S. R. D. A., & Noris, M. N. (2023). Effect of Guided Inquiry-Based Excretion System E-Module to Improve Critical Thinking and ICT Literacy Skills for Students. *Jurnal Penelitian Pendidikan IPA*, 9(2), 681–689. <https://doi.org/10.29303/jppipa.v9i2.2036>

- Misbah, M., Aji Pratama, W., Hartini, S., & Dewantara, D. (2018). Pengembangan E-Learning Berbasis Schoology pada Materi Impuls dan Momentum untuk Melatihkan Literasi Digital. *PSEJ (Pancasakti Science Education Journal)*, 3(2), 109–114. <https://doi.org/10.24905/psej.v3i2.107>
- Muhson, Ali. “Pengembangan Media Pembelajaran Berbasis Teknologi Informasi”. *Jurnal Pendidikan Akuntansi Indonesia*, Vol.8, No.2, 2010.
- Nasution. (2013). *Berbagi Pendekatan dalam Proses Belajar Mengajar*. Bumi Aksara.
- Noris, M., Suyitno, M., Utama Rizal, S., Lazuardy Firdiansyah, A., & Sukamdi, S. (2023). Implementation of Guided Inquiry Learning-Based Electronic Modules to Improve Student’s Analytical Skills. *Jurnal Penelitian Pendidikan IPA*, 9(3), 1242–1250. <https://doi.org/10.29303/jppipa.v9i3.3401>
- Nuryani, Y R dalam Dessy (2014). Perkembangan Penelitian Pembelajaran berbasis inkuiri dalam pendidikan sains. Bandung. *Jurnal FPMIPA Universitas Pendidikan Indonesia*
- Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows*. Open University Press.
- Pedaste, M., Mäeots, M., Siiman, L. A., de Jong, T., van Riesen, S. A. N., Kamp, E. T., Manoli, C. C., Zacharia, Z. C., & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review*, 14, 47–61. <https://doi.org/10.1016/j.edurev.2015.02.003>
- Peter, E. E. (2012). Critical thinking: Essence for teaching mathematics and mathematics problem
- Prince, M. ., & Felder, R. M. (2006). Inductive Teaching and Learning Methods : Definitions, Comparisons, and Research Bases. *Journal of Engineering Education*, 95(2), 123–138. <https://doi.org/10.1002/j.2168-9830.2006.tb00884.x>
- Purnasari, P. D., & Sadewo, Y. D. (2020). Pemanfaatan Teknologi Dalam Pembelajaran Sebagai Upaya Peningkatan Kompetesnsi Pedagogik. *Publikasi Pendidikan*, 10(3), 189. <https://doi.org/10.26858/publikan.v10i3.15275>
- Putra, A. Y. W. (2024). Analisis Validitas Pengembangan Modul Pembelajaran Pengelasan Smaw Berbasis Proyek (Project Based Learning). *NUSRA: Jurnal Penelitian Dan Ilmu Pendidikan*, 5(1), 443–454. <https://doi.org/10.55681/nusra.v5i1.2232>
- Putri, S. R. P., & Sukarmin. (2023). Pengembangan E-Modul Berbasis Inkuiri Terbimbing untuk Melatihkan Keterampilan Berpikir Kritis Peserta Didik pada Materi Laju Reaksi. *PENDIPA Journal of Science Education*, 7(2), 327–335. <https://doi.org/10.33369/pendipa.7.2.327-335>

- Ravista, N., Sutarno, S., & Harlita, H. (2021). Validity and Practicality of Guided Inquiry-Based E-Modules accompanied by Virtual Laboratory to Empower Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 7(SpecialIssue), 331–339. <https://doi.org/10.29303/jppipa.v7ispecialissue.1083>
- Roslina, Jamili, J., & Muzuni, M. (2023). Pengaruh Model Pembelajaran Inkuiri Terbimbing (Guided Inquiry) Terhadap Pemahaman Konsep Dan Keterampilan Berpikir Kritis Siswa Kelas Xi Mia Sma Negeri Amonggedo Pada Materi Sistem Ekskresi. *Jurnal Biofiskim : Pendidikan Dan Pembelajaran IPA*, 5(2), 1–11. <https://doi.org/10.33772/biofiskim.v5i2.569>
- Sarwi, S., Hidayah, N., & Yulianto, A. (2019). Guided inquiry learning model to improve the conceptual understanding and scientific work skills of high school students in Central Java. *Journal of Physics: Conference Series*, 1170(1), 012083. <https://doi.org/10.1088/1742-6596/1170/1/01208>
- Sawitri, E., Astiti, M. S., & Fitriani, Y. (2019). Hambatan Dan Tantangan Pembelajaran Berbasis Teknologi Informasi Dan Komunikasi. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas PGRI Palembang*, 202–213.
- Septia, A. E., Hamidah, A., & Sadikin, A. (2024). Pengembangan E-Modul Interaktif Berbasis Case Study Pada Materi Sistem Sirkulasi Darah Untuk Siswa Kelas XI SMA. *PENDIPA Journal of Science Education*, 8(3), 440–448. <https://doi.org/10.33369/pendipa.8.3.440-448>
- Sudarma, I. K., Prabawa, D. G. A. P., & Suartama, I. K. (2022). The Application of Information Processing Theory to Design Digital Content in Learning Message Design Course. *International Journal of Information and Education Technology*, 12(10), 1043–1049. <https://doi.org/10.18178/ijiet.2022.12.10.1718>
- Suryana, I. M., Suharsono, N., & Kirna, dan I. M. (2014). Pengembangan Bahan Ajar Cetak Memggunakan Model Hannafin & Peck. *E-Journal Program Pascasarjana Universitas Pendidikan Ganesha Program Studi Teknologi Pembelajaran (Volume 4 Tahun 2014)*, 4, 1–1.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson Education.
- Tafonao, T. (2018). Peranan Media Pembelajaran Dalam Meningkatkan Minat Belajar Mahasiswa. *Jurnal Komunikasi Pendidikan*, 2(2), 103. <https://doi.org/10.32585/jkp.v2i2.113>
- Taylor, L. (2004). Educational theories and instructional design models. Their place in simulation. *Nursing Education and Research, Southern Health*.
- Tegeh, I Made dan I Made Kirna. 2010. Metode Penelitian Pengembangan Pendidikan. Singaraja: Undiksha.

- Thoyyibah, A., & Jatmiko, B. (2016). Penerapan Model Pembelajaran Guided Inquiry Untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Pada Materi Fluida Statik Kelas X Di Sman 1 Krembung Sidoarjo. *Jurnal Inovasi Pendidikan Fisika (JIPF)*, 05(02), 21–25. <https://ejournal.unesa.ac.id/index.php/inovasi-pendidikan-fisika/article/view/16277>
- Tinio, V. L. (2003). Information and Communication Tecnologie in Education. e-ASEANTaskForce.<http://www.apdip.net/publications/iespprimers/ICTinEducation.pdf>), diakses pada 16 Februari 2018
- Trianto, Mengembangkan Model Pembelajaran Tematik. Jakarta: PT Prestasi Pustaka Raya, 2010.
- Trianto. (2007). Model Pembelajaran Terpadu dalam Teori dan Praktek. Prestasi Pustaka.
- Tufte, E. R. (2006). *The cognitive style of PowerPoint: Pitching out corrupts within* (2nd ed.). Graphics Press.
- van der Graaf, J. (2020). Inquiry-Based Learning and Conceptual Change in Balance Beam Understanding. *Frontiers in Psychology*, 11, 1621. <https://doi.org/10.3389/fpsyg.2020.01621>
- Wilcox, R. R. (2005). *Introduction to robust estimation and hypothesis testing* (2nd ed.). Academic Press.
- Wilujeng, I., & Putri, T. S. Y. (2020). Development of SETS E-Module Integrated with POE Model for Science Learning. *Journal of Educational Science and Technology (EST)*, 1(1), 252–264. <https://doi.org/10.26858/est.v1i1.14735>
- Wiyanto, a. Sopyan, nugroho, dan s.w.a. Wibowo “potret pembelajaran sains di smp dan sma”, *Jurnal pend. Fisika indonesia*, Semarang, vol. 4, no. 2 (juli 2006).
- Zamriani, N., Sari, S. Y., & Hidayati, H. (2023). The Effect Of The Guided Inquiry Learning Model On The Critical Thinking Skill Of Students In Static And Dynamic Fluid Materials For Class XI MAN 2 Bukittinggi. *Pillar of Physics Education*, 16(2), 135–140. <https://doi.org>