

DAFTAR PUSTAKA

- Aflaha, M. A. (2024). Pengembangan Modul Pembelajaran Mata Kuliah Teknologi Multimedia pada PTIK UNM. *Information Technology Education Journal*, 60-63
- Ali, D., Fatemi, Y., Boskabadi, E., Nikfar, M., Ugwuoke, J., & Ali, H. (2024). ChatGPT in teaching and learning: A systematic review. *Education sciences*, 14(6), 643. <https://doi.org/10.3390/educsci14060643>
- Anwar, Ilham. (2010). Pengembangan Bahan Ajar. Bahan Kuliah Online. Direktori UPI. Bandung.
- Arends, R. (2012). *Learning to teach* (9th ed). McGraw-Hill.
- Aristin, N. F., Hastuti, K. P., Arisanty, D., Adyatma, S., & Donna, C. (2023). Effectiveness of problem-based learning models to improve learning outcomes of geography in the new normal learning era. *Journal of Education and Learning (EduLearn)*, 17(4), 623–632. <https://doi.org/10.11591/edulearn.v17i4.20834>
- Ausubel, D. P. (1963). *The psychology of meaningful verbal learning: An introduction to school learning*. Grune & Stratton.
- Ausubel, D. P. (1968). *Educational psychology: A cognitive view*. New York: Holt, Rinehart and Winston.
- Ausubel, D. P., Novak, J. D., & Hanesian, H. (1978). *Educational psychology: A cognitive view* (2nd ed.). New York: Holt, Rinehart and Winston.
- Bitu, Y. S., Setiawi, A. P., Bili, F. G., Iriyani, S. A., & Patty, E. N. S. (2024). Pembelajaran Interaktif: Meningkatkan Keterlibatan Dan Pemahaman Siswa. *J-Kip (Jurnal Keguruan dan Ilmu Pendidikan)*, 5(2). <https://doi.org/10.25157/j-kip.v5i2.14697>
- Bitzenbauer, P. (2023). ChatGPT in physics education: A pilot study on easy-to-implement activities. *Contemporary Educational Technology*, 15(3), ep430. <https://doi.org/10.30935/cedtech/13176>
- Chi, M. T. H., Bassok, M., Lewis, M. W., Reimann, P., & Glaser, R. (1989). Self-explanations: How students study and use examples in learning to solve problems. *Cognitive Science*, 13(2), 145–182. https://doi.org/10.1207/s15516709cog1302_1
- Cutnell, J. D., & Johnson, K. W. (2012). Physics (9th ed.). Wiley. ISBN 9780470879528
- Dick, W., Carey, L., & Carey, J. O. (2015). *The systematic design of instruction* (8th ed.). Pearson Education.

- Famulaqih, S., & Lukman, A. (2024). Pengembangan Bahan Ajar Modul Pembelajaran. *Karakter: Jurnal Riset Ilmu Pendidikan Islam*, 1(2), 01-12. DOI: <https://doi.org/10.61132/karakter.v1i4.156>
- Fatmi, N., Nadia, E., & Siska, D. (2021). Pengaruh penggunaan modul pembelajaran terhadap hasil belajar kognitif siswa. *Relativitas: Jurnal Riset Inovasi Pembelajaran Fisika*, 4(2), 68-80. DOI: <https://doi.org/10.29103/relativitas.v4i2.5257>
- Firdaus, M., & Wilujeng, I. (2018). Pengembangan LKPD inkuiiri terbimbing untuk meningkatkan keterampilan berpikir kritis dan hasil belajar peserta didik. *Jurnal Inovasi Pendidikan IPA*, 4(1), 26–40. <https://doi.org/10.21831/jipi.v4i1.5574>
- Firman, F., & Rahayu, S. (2020). Pembelajaran Online di Tengah Pandemi Covid-19. *Indonesian Journal of Educational Science (IJES)*, 2(2), 81–89. <https://doi.org/10.31605/ijes.v2i2.659>
- Fitri, N. A., Sa'adah, N., Fikriya, S., Suryandari, K. C., & Fatimah, S. (2023). Analisis Gelombang Bunyi Melalui Alat Peraga Sederhana dan Relevansinya dalam Pembelajaran di SD. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 6(1), 617. <https://doi.org/10.20961/shes.v6i1.71198>
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906–911. <https://doi.org/10.1037/0003-066X.34.10.906>
- Giancoli, D. C. (2013). Physics: Principles with Applications (7th ed.). Pearson Education. ISBN 9780321928931
- Gunawan, G., Harjono, A., Hermansyah, H., & Herayanti, L. (2019). Guided Inquiry Model Through Virtual Laboratory To Enhance Students' Science Process Skills On Heat Concept. *Jurnal Cakrawala Pendidikan*, 259–268. <https://doi.org/10.21831/cp.v38i2.23345>
- Halliday, D., Resnick, R., & Walker, J. (2014). Fundamentals of Physics (10th ed.). Wiley. ISBN 9781118230718

- Imiati, N., & Purwaningsih, E. (2016). *Telaah Bahan Ajar Materi Gelombang dan Penyebab Kesulitan-kesulitan Siswa Memahaminya*.
- Jagdishbhai, N., & Thakkar, K. Y. (2023). Exploring the capabilities and limitations of GPT and Chat GPT in natural language processing. *Journal of management Research and Analysis*, 10(1), 18-20. <https://doi.org/10.18231/j.jmra.2023.004>
- Kasneci, E., Sessler, K., Küchenhoff, H., Bannert, M., Goldhammer, F., & Bär, A. (2023). ChatGPT for Good? On Opportunities and Challenges of Large Language Models for Education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Liang, Y., Zou, D., Xie, H., & Wang, F. L. (2023). Exploring the potential of using ChatGPT in physics education. *Smart Learning Environments*, 10(1). <https://doi.org/10.1186/s40561-023-00273-7>
- MacAskill, W. (2019). *Doing good better: How effective altruism can help you help others, do work that matters, and make smarter choices about giving back*. Avery.
- Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I—Outcome and process. *British Journal of Educational Psychology*, 46(1), 4–11. <https://doi.org/10.1111/j.2044-8279.1976.tb02980.x>
- Musfiqon H.M. (2012). *Pengembangan Media dan Sumber Pembelajaran*. Prestasi Pustaka.
- Naznin, K., Al Mahmud, A., Nguyen, M. T., & Chua, C. (2025). ChatGPT Integration in Higher Education for Personalized Learning, Academic Writing, and Coding Tasks: A Systematic Review. *Computers*, 14(2), 53. <https://doi.org/10.3390/computers14020053>
- Nengsih, D., Febrina, W., Maifalinda, M., Junaidi, J., Darmansyah, D., & Demina, D. (2024). Pengembangan modul ajar kurikulum merdeka. *Diklat Review: Jurnal manajemen pendidikan dan pelatihan*, 8(1), 150-158. DOI: <https://doi.org/10.35446/diklatreview.v8i1.1738>
- Novak, J. D. (2002). Meaningful learning: The essential factor for conceptual change in limited or inappropriate propositional hierarchies leading to empowerment of learners. *Science Education*, 86(4), 548–571. <https://doi.org/10.1002/sce.10032>
- Novak, J. D., & Gowin, D. B. (1984). *Learning How to Learn*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139173469>

- Nugroho, A. A., Putra, R. W. Y., Putra, F. G., & Syazali, M. (2017). Pengembangan Blog Sebagai Media Pembelajaran Matematika. *Al-Jabar: Jurnal Pendidikan Matematika*, 8(2), 197–203. <https://doi.org/10.24042/ajpm.v8i2.2028>
- Nurkholis, N. (1970). Pendidikan Dalam Upaya Memajukan Teknologi. *Jurnal Kependidikan*, 1(1), 24–44. <https://doi.org/10.24090/jk.v1i1.530>
- Paul Suparno. (2005). *Miskonsepsi & Perubahan Konsep Pendidikan Fisika*. PT Grasindo.
- Pineda Báez, C., Agustín, C., & Manzano León, A. (2024). Impact of gamification on school engagement: A systematic review. *Frontiers in Education*, 9, Article 1466926. <https://doi.org/10.3389/feduc.2024.1466926>
- Putri, T. N., Anwar, R. N., & Afifah, D. R. (2024). Efektivitas Modul Ajar terhadap Hasil Belajar Siswa di Lembaga Pendidikan Islam Anak Usia Dini. *Journal Of Early Childhood And Islamic Education*, 3(1), 137-145 DOI: <https://doi.org/10.62005/joece.v3i1.108>
- Rahmawati, M., & Suryadi, E. (2019). Guru sebagai fasilitator dan efektivitas belajar siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 4(1), 49. <https://doi.org/10.17509/jpm.v4i1.14954>
- Rahmi, E., Ibrahim, N., & Kusumawardani, D. (2021). Pengembangan Modul Online sistem belajar terbuka dan jarak jauh untuk meningkatkan kualitas pembelajaran pada program studi teknologi Pendidikan. *Visipena*, 12(1), 44-66. DOI: <https://doi.org/10.46244/visipena.v12i1.1476>
- Ray, P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-Physical Systems*, 3, 121-154. <https://doi.org/10.1016/j.iotcps.2023.04.003>
- Roumeliotis, K. I., & Tselikas, N. D. (2023). Chatgpt and open-ai models: A preliminary review. *Future Internet*, 15(6), 192. <https://doi.org/10.3390/fi15060192>
- Sophia Chen. (n.d.). How ChatGPT Could Help Educators Teach Physics. *APS News*. <https://www.aps.org/apsnews/2024/08/chatgpt-educators-teach-physics>
- Sugiyono. (2017). Metode Penelitian dan Pengembangan (Research and Development/R&D). Bandung: Alfabeta.
- Suryosubroto. (2009). *Proses belajar mengajar di sekolah*. Rineka Cipta.

- Suyatno, Jumintono, Pambudi, D. I., Mardati, A., & Wantini. (2019). Strategy of values education in the Indonesian education system. *International Journal of Instruction*, 12(1), 607–624. <https://doi.org/10.29333/iji.2019.12139a>
- Van Poucke, M. (2024). ChatGPT, the perfect virtual teaching assistant? Ideological bias in learner-chatbot interactions. *Computers and Composition*, 73, 102871. <https://doi.org/10.1016/j.compcom.2024.102871>
- Wicaksono, S. R. (2020). Joyful Learning in Elementary School. *International Journal of Theory and Application in Elementary and Secondary School Education*, 2(2), 80–90. <https://doi.org/10.31098/ijtaese.v2i2.23>
- Wiwita, R., & Handayani, R. (2023). Efektivitas Modul Pembelajaran Berbasis Proyek pada Labor Komputer. *Jurnal Ilmu Pendidikan*, 5(1), 248-258. DOI : <https://doi.org/10.31004/edukatif.v5i1.3481>
- Young, H. D., & Freedman, R. A. (2012). *University Physics with Modern Physics* (13th ed.). Pearson. ISBN 978-0321696861
- Zaharah, Z., & Susilowati, A. (2020). Meningkatkan Motivasi Belajar Peserta Didik Dengan Menggunakan Media Modul Elektronik Di Era Revolusi Industri4.0:(Improving Students' Learning Motivation through Electronic Module Media in the Industrial Revolution 4.0). *Biodik*, 6(2), 145-158. DOI: <https://doi.org/10.22437/bio.v6i2.8950>
- Zhou, R., & Chan, C. (2017). Using a fuzzy comprehensive evaluation method to determine product usability: A test case. *Work (Reading, Mass.)*, 56(1), 21–29. <https://doi.org/10.3233/WOR-162473>