

DAFTAR PUSTAKA

- Adinda, A., Mulia, S., Irfan, I., Gusmaneli, G., Mahmud Yunus Lubuk Lintah, J., Kuranji, K., Padang, K., & Barat, S. (2024). Penerapan Strategi Pembelajaran Scaffolding Dalam Membentuk Kemandirian Peserta Didik. *Jurnal Bima: Pusat Publikasi Ilmu Pendidikan Bahasa Dan Sastra*, 2(2). <https://doi.org/10.61132/bima.v2i2.763>
- Afriansyah, E. A. (2022). Peran RME terhadap Miskonsepsi Siswa MTs pada Materi Bangun Datar Segi Empat. *Mosharafa: Jurnal Pendidikan Matematika*, 11(3). <http://journal.institutpendidikan.ac.id/index.php/mosharafa>
- Amelia, I., & Nindiasari, H. (2022). Efektivitas Pembelajaran Inquiry dengan Strategi Scaffolding untuk Meningkatkan Kemampuan Komunikasi Matematis Siswa. *Gauss: Jurnal Pendidikan Matematika*, 5(1), 27–36. <https://doi.org/10.30656/gauss.v5i1.4525>
- Anam, R. S., Widodo, A., Sopandi, W., & Wu, H. K. (2019). Developing a five-tier diagnostic test to identify students' misconceptions in science: an example of the heat transfer concepts. *Elementary Education Online*, 18(3), 1014–1029. <https://doi.org/10.17051/ilkonline.2019.609690>
- Anghileri, J. (2006). Scaffolding practices that enhance mathematics learning. *Journal of Mathematics Teacher Education*, 9(1), 33–52. <https://doi.org/10.1007/s10857-006-9005-9>
- Arda, F. N., Pujiastuti, H., & Rafianti, I. (2023). Analisis Miskonsepsi Siswa SMP dalam Menyelesaikan Soal Matematika Menggunakan Four Tier Diagnostic Test. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, 12(1), 135. <https://doi.org/10.25273/jipm.v12i1.11035>
- Bannert, M., Hildebrand, M., & Mengelkamp, C. (2009). Effects of a metacognitive support device in learning environments. *Computers in Human Behavior*, 25(4), 829–835. <https://doi.org/10.1016/j.chb.2008.07.002>
- Berlian Awwalin, U., & Ebit Nugroho, D. (2024). Identifikasi miskonsepsi siswa menggunakan tes diagnostik five-tier pada materi larutan penyangga. *Science Education and Development Journal Archives*, 2(1), 2024. <https://doi.org/10.59923/sendja.v2i1.79>
- Borchers, C., Fleischer, H., Schanze, S., Scheiter, K., & Aleven, V. (2025). High scaffolding of an unfamiliar strategy improves conceptual learning but reduces enjoyment compared to low scaffolding and strategy freedom. *Computers and Education*, 236. <https://doi.org/10.1016/j.compedu.2025.105364>
- Çakir, Ö. S., Geban, Ö., & Yürük, N. (2002). Effectiveness of conceptual change text-oriented instruction on students' understanding of cellular respiration concepts. *Biochemistry and Molecular Biology Education*, 30(4), 239–243. <https://doi.org/10.1002/bmb.2002.494030040095>
- Calor, S. M., Dekker, R., van Drie, J. P., & Volman, M. L. L. (2024). Improving the quality of mathematical discussions: The impact of small-group scaffolding. *Learning, Culture and Social Interaction*, 49. <https://doi.org/10.1016/j.lcsi.2024.100858>
- Clark, R. M., & Mahboobin, A. (2018). Scaffolding to Support Problem-Solving Performance in a Bioengineering Lab - A Case Study. *IEEE Transactions on Education*, 61(2), 109–118. <https://doi.org/10.1109/TE.2017.2755601>

- David Wood, H. W. D. M. (1978). An Experimental Evaluation Of Four Face-To-Face Teaching Strategies. *International Journal Of Behavioral Development* , 1, 131–147.
- Davis, E. A., & Linn, M. C. (2000). Scaffolding students' knowledge integration: prompts for reflection in KIE. *INT. J. SCI. EDUC*, 22(8), 819–837. <http://www.tandf.co.uk/journals>
- Dea Alifia Fitri, Maison, M., & Dwi Agus Kurniawan. (2023). Analisis Kebutuhan Awal: Inovasi Five-Tier Diagnostic Test untuk Mengidentifikasi Miskonsepsi pada Materi Elastisitas dan Hukum Hooke. *Jurnal Pendidikan MIPA*, 13(1), 100–104. <https://doi.org/10.37630/jpm.v13i1.830>
- Dicky Susanto, Savitri Sihombing, Marianna Magdalena Radjawane, Ambarsari Kusuma Wardani, Theja Kurniawan, Yulian Candra, & Sinta Mulyan. (2022). *Matematika 2022 SMP/MTs Kelas VII* (jilid 1). Badan Standar, Kurikulum, dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi . <https://buku.kemdikbud.go.id>
- Dwi Pebriyanti, Hairunnisyah Sahidu, & Sutrio. (2015). Efektifitas Model Pembelajaran Perubahan Konseptual Untuk Mengatasi Miskonsepsi Fisika Pada Siswa Kelas X SMAN 1 Praya Barat tahun Pelajaran 2012/2013. *Jurnal Pendidikan Fisika Dan Teknologi*, 1(1), 92–96.
- Ertugruloglu, E., Mearns, T., & Admiraal, W. (2023). Scaffolding what, why and how? A critical thematic review study of descriptions, goals, and means of language scaffolding in Bilingual education contexts. In *Educational Research Review* (Vol. 40). Elsevier Ltd. <https://doi.org/10.1016/j.edurev.2023.100550>
- Febriyana, S. A., Liliawati, W., & Kaniawati, I. (2020). Identifikasi Miskonsepsi Dan Penyebabnya Pada Materi Gelombag Stasioner Kelas XI Menggunakan Five-Tier Diagnostoc Test. *Jurnal Fisika Dan Pendidikan Fisika*, 5(2). <http://jurnalkonstan.ac.id/index.php/jurnal>
- Fitriani, N., & Rohaeti, E. E. (2020). Miskonsepsi Siswa Pada Materi Geometri Di Tingkat Sekolah Menengah Pertama. *Teorema: Teori Dan Riset Matematika*, 5(1), 9–16.
- Gani, A., Safitri, R., & Mahyana, M. (2017). Improving the visual-spatial intelligence and results of learning of juniour high school students' with multiple intelligences-based students worksheet learning on lens materials. *Jurnal Pendidikan IPA Indonesia*, 6(1), 16–22. <https://doi.org/10.15294/jpii.v6i1.9594>
- Gurel, D. K., Eryilmaz, A., & McDermott, L. C. (2015a). A review and comparison of diagnostic instruments to identify students' misconceptions in science. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(5), 989–1008. <https://doi.org/10.12973/eurasia.2015.1369a>
- Gurel, D. K., Eryilmaz, A., & McDermott, L. C. (2015b). A review and comparison of diagnostic instruments to identify students' misconceptions in science. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(5), 989–1008. <https://doi.org/10.12973/eurasia.2015.1369a>
- Herliana. (2024). *Pengembangan Intrumen Miskonsepsi Konsep Pecahan Berformat Five-Tier Dan Implementasinya Pada Siswa Dengan Gaya Kognitif Field Dependent Dan Field Indenpendent Tesis*. Universitas Jambi.
- Ilhamsyah, & Rahmi. (2023). Analisis Miskonsepsi Siswa SMA Ditinjau Dari Gaya Kognitif. *JRIP: Jurnal Riset Dan Inovasi Pembelajaran* , 3(3), 163.
- Inggit, S. M., Liliawati, W., & Suryana, I. (2021). Identifikasi Miskonsepsi dan Penyebabnya Menggunakan Instrumen Five-Tier Fluid Static Test (5TFST) pada Peserta Didik Kelas XI

Sekolah Menengah Atas. *Journal of Teaching and Learning Physics*, 6(1), 49–68.
<https://doi.org/10.15575/jotalp.v6i1.11016>

Isabel, M., & Pinilla, F. (2007). *Fraction: Conceptual And Didactic Aspects*.

Juita, Z., Sundari, P. D., Sari, S. Y., & Rahim, F. R. (2023). Identification of Physics Misconceptions Using Five-tier Diagnostic Test: Newton's Law of Gravitation Context. *Jurnal Penelitian Pendidikan IPA*, 9(8), 5954–5963. <https://doi.org/10.29303/jppipa.v9i8.3147>

Kaya, E., & Geban, O. (2011). The effect of conceptual change based instruction on students' attitudes toward chemistry. *Procedia - Social and Behavioral Sciences*, 15, 515–519. <https://doi.org/10.1016/j.sbspro.2011.03.133>

Kruse, J., & Clough, M. P. (2010). Confronting Doubts About the Intelligibility, Plausibility, and Fruitfulness of Inquiry-based Instruction. *Iowa Science Teachers Journal*, 37(3), 1–5.

Kusmaryono, I., Gufron, A. M., & Rusdiantoro, A. (2020). Efektivitas Strategi Scaffolding dalam Pembelajaran Melawan Penurunan Tingkat Kecemasan Matematika Machine Translated by Google. *Jurnal Matematika Dan Pendidikan Matematika*, 4, 13–22.

Li, T., Yan, L., Iqbal, S., Srivastava, N., Singh, S., Raković, M., Swiecki, Z., Tsai, Y. S., Gašević, D., Fan, Y., & Li, X. (2025). Analytics of self-regulated learning strategies and scaffolding: Associations with learning performance. *Computers and Education: Artificial Intelligence*, 8. <https://doi.org/10.1016/j.caeai.2025.100410>

Lombasari, B. N., Subarinah, S., Azmi, S., & Kurniati, N. (2022). Analisis Kesulitan dalam Memecahkan Masalah Soal Cerita Matematika dan Bentuk Scaffolding yang Diberikan Pada Peserta Didik Kelas X SMA Al Ma'arif NU Sinah Pengembur. *Jurnal Ilmiah Profesi Pendidikan*, 7(3c), 2007–2017. <https://doi.org/10.29303/jipp.v7i3c.876>

Lusy Rusdianti, E. (2021). Misconception And Scaffolding Students In Solving Algebraic Operation Problems In Terms Of Cognitive Style. *Matematika Dan Pendidikan Matematika, Jurnal*, 04(01), 62–79.

Madu, B. C., & Orji, E. (2015). Effects of Cognitive Conflict Instructional Strategy on Students' Conceptual Change in Temperature and Heat. *SAGE Open*, 5(3). <https://doi.org/10.1177/2158244015594662>

Maison, A. K. D., & Sari Widowati, R. (2021). The Quality of Four-Tier Diagnostic Test Misconception Instrument for Parabolic Motion. *Jurnal Pendidikan Dan Pengajaran*, 54, 359–369. <https://doi.org/10.23887/jpp.v54i2>

Maison, J. W. D. O. (2024). Development of Five-Tier Instruments to Identify Students' Misconceptions about Centripetal and Centrifugal Force. *Indonesian Journal of Science and Education*, 7(1), 36–45. <https://doi.org/10.31002/ijose.v7i1.215>

Maison, M., Lestari, N., & Widaningtyas, A. (2020). Identifikasi Miskonsepsi Siswa Pada Materi Usaha Dan Energi. *Jurnal Penelitian Pendidikan IPA*, 6(1), 32–39. <https://doi.org/10.29303/jppipa.v6i1.314>

Manora, E., Yani, A., Program, S. S., Pendidikan, S., Fkip, M., & Pontianak, U. (2020). Remediasi Miskonsepsi Siswa Dikaji Dari Gaya Kognitif Dalam Materi Bilangan Bulat Di SMP. *Jurnal Pendidikan Dan Pembelajaran Khaluristiwa*.

Menekse, M., Putra, A. S., Kim, J., Butt, A. A., McDaniel, M., Davidesco, I., Cadieux, M., Kim, J., & Litman, D. (2025). Enhancing student reflections with natural language processing based

scaffolding: A quasi-experimental study in a large lecture course. *Computers and Education: Artificial Intelligence*, 8. <https://doi.org/10.1016/j.caeai.2025.100397>

- Moong, P. A., Sundaygara, C., & Ayu, H. D. (2020). Pengaruh Model Pembelajaran MEA Dengan Metode Scaffolding Terhadap Penguasaan Konsep Fisika Ditinjau Dari SRL. *Jurnal Pendidikan Fisika*, 8(1), 104. <https://doi.org/10.24127/jpf.v8i1.2258>
- Murdiyani, N. M. (2013). Scaffolding to Support Better Achievement in Mathematics. *PYTHAGORAS Jurnal Pendidikan Matematika*, 8(1), 84–91. <https://doi.org/10.21831/pg.v8i1.8496>
- Murih Rahayu. (2018). *Pengaruh Scaffolding Berbasis Guided Inquiry Berbantuan Google Classroom Dalam Meningkatkan Pemahaman Konsep Siswa*.
- Muslim, A. I. (2022). *Definisi Penelitian*.
- Muti'ah, U., Waluya, St. B., & Mulyono, M. (2022). Creative Thinking Skills based on Self-efficacy in Creative Problem Solving Learning with Scaffolding. *IJECA (International Journal of Education and Curriculum Application)*, 5(2), 169. <https://doi.org/10.31764/ijeca.v5i2.10100>
- Muzakki, N. A., Diana, S., & Priyandoko, D. (2023). Upaya Remediasi Miskonsepsi Siswa SMA pada Materi Sel dengan Menggunakan Model Pembelajaran Think Talk Write. *Bioscientist : Jurnal Ilmiah Biologi*, 11(1), 302. <https://doi.org/10.33394/bioscientist.v11i1.7381>
- Nickl, M., Sommerhoff, D., Radkowsch, A., Huber, S. A., Bauer, E., Ufer, S., Plass, J. L., & Seidel, T. (2024). Effects of real-time adaptivity of scaffolding: Supporting pre-service mathematics teachers' assessment skills in simulations. *Learning and Instruction*, 94. <https://doi.org/10.1016/j.learninstruc.2024.101994>
- Nisa, K., & Sudrajat, A. (2023). Pengembangan Instrumen Tes Diagnostik Five-Tier untuk Mengidentifikasi Miskonsepsi Siswa Kelas XI pada Materi Laju Reaksi. *Pendipa Journal of Science Education*, 7(2), 127–136. <https://doi.org/10.33369/pendipa.7.2.127-136>
- Novita Karina Dewi, Zainuddin Untu, & Arianti DIpundus. (2020). Analisis Kesulitan Menyelesaikan Soal Matematika Materi Operasi Hitung Bilangan Pecahan Siswa Kelas VII. *Jurnal Primatika*, 9(2).
- Nur Hudha, M., & Yuliati, L. (2016). Perubahan Konseptual Fisika Dengan Aunthetic Problem Melalui Integrative Learning Pada Topik Gerak Lurus Pada SMA Suryabuana Malang. *Jurnal Inspirasi Pendidikan*, 6(1), 733–743.
- Nuraina, & Rohantizani. (2023). Analisis Miskonsepsi Siswa Menggunakan Certainty Of Response Index (CRI) Pada Materi Turunan Di SMA Negeri 1 Muara Batu. *Jurnal Penelitian Pembelajaran Matematika Sekolah*, 7(JP2MS), 95–105. <https://doi.org/10.33369/jp2ms.7.1.95-105>
- Nuril Intan, M. (2020). Pemberian Scaffolding Terhadap Miskonsepsi Siswa Dalam Menyelesaikan Soal Materi Himpunan. *Jurnal Ilimiah Pendidikan Matematika*, 9, 221–229.
- Nurussama, A., & Hermanto, H. (2022). Analisis Miskonsepsi Siswa Pada Materi Pecahan Ditinjau Dari Teori Konstruktivisme. *Aksioma: Jurnal Program Studi Pendidikan Matematika*, 11(1), 641. <https://doi.org/10.24127/ajpm.v11i1.4697>
- Özdemir, G., & Clark, D. B. (2007). An Overview of Conceptual Change Theories. *Eurasia Journal of Mathematics*, 3(4), 351–361.

- Pektaş, H. M., Karamustafaoğlu, O., & Çelik, H. (2025). The Role of Educational Data Mining and Artificial Intelligence Supported Learning Analytics on Conceptual Change: New Approaches to Differentiated Instruction. *Journal of Science Education and Technology*. <https://doi.org/10.1007/s10956-025-10214-3>
- Posner, G. J., Strike, K. A., Hewson, P. W., & Gertzog, W. A. (1982). *Accommodation of a Scientific Conception: Toward a Theory of Conceptual Change**. 211–227.
- Purwasih, S. M., & Rahmadhani, E. (2022). Penerapan Scaffolding Sebagai Solusi Meminimalisir Kesalahan Siswa Dalam Menyelesaikan Masalah SPLDV. *Fibonacci: Jurnal Pendidikan Matematika Dan Matematika*, 7(2), 91. <https://doi.org/10.24853/fbc.7.2.91-98>
- Putri Nur Indah, D. K. F. (2022). Kesalahan Siswa Dalam Menyelesaikan Soal Cerita Matematika Ditinjau Dari Gaya Belajar Global-Analitik Disertasi Scaffoldingnya. *Jurnal Ilmiah Pendidikan Matematika*, 11(2).
- Putri, W. O., Maria, H. T., & Hamdani, H. (2021). Analisis Miskonsepsi Menggunakan Four Tier Diagnostic Test Berbantuan Google Form pada Materi Tekanan Zat. *Edukatif : Jurnal Ilmu Pendidikan*, 3(6), 4738–4749. <https://doi.org/10.31004/edukatif.v3i6.1445>
- Rahmawati, S., Taufik, M., Harjono, A., Zuhdi, M., & Author, C. (2020). Pengaruh Model Pembelajaran Perubahan Konseptual Terhadap Kemampuan Berpikir Kreatif Fisika Peserta Didik Kelas XI Pendahuluan. *Jurnal Penelitian Dan Pembelajaran Fisika Indonesia*.
- Rapih, S., & Sutaryanto, S. (2017). Pengaruh Model Pembelajaran Perubahan Konseptual (MPPK) Terhadap Hasil Belajar IPS dan Sikap Multikultural Siswa Sekolah Dasar Berlatar Belakang Monokultur. *Premiere Educandum : Jurnal Pendidikan Dasar Dan Pembelajaran*, 7(02), 180. <https://doi.org/10.25273/pe.v7i2.1599>
- Retnodari, W., Faddia Elbas, W., & Loviana, D. S. (2020). Scaffolding Dalam Pembelajaran Matematika. *Jurnal Of Mathematics Education*, 1, 19–27.
- Ririn, S., Mualifah, L., Rahayu, M., Sayyid, U., & Tulungagung, A. R. (2023). Identifikasi Miskonsepsi Siswa Kelas XI IPA MAN 2 Lamongan Menggunakan Tes Diagnostik Five-Tier Pada Konsep Laju Reaksi. *Pembelajaran Dan Pengembangan Diri*, 3, 513–526. <https://doi.org/10.47353/bj.v3i3.260>
- Roza, J. (2022). Identifikasi Pemahaman Dan Level Miskonsepsi Siswa Pada Materi Kinematika Menggunakan Instrumen Four Tier Diagnostic Test. *EJM: Jurnal Pendidikan Madrasah*, 1(1).
- Şahin, Ç., Ipek, H., & Çepni, S. (2010). Computer supported conceptual change text: Fluid pressure. *Procedia - Social and Behavioral Sciences*, 2(2), 922–927. <https://doi.org/10.1016/j.sbspro.2010.03.127>
- Salsabilah, R. (2022). Miskonsepsi Siswa SMP Pada Materi Grafik Fungsi Kuadrat. *Jurnal Ilmiah Pendidikan Matematika*, 11(3), 924–937.
- Saputri, L., Kurniawan, W., & Jambi, U. (2021). Pengembangan Four-Tier Diagnostic Test Berbasis Website untuk Mengidentifikasi Miskonsepsi pada Materi Suhu dan Kalor. *Jurnal Ilmiah Teknologi Informasi Asia*, 15(1).
- Sasongko, D. F. (2023). Teacher Student's Metacognitive Failure When Solving Sphere Question And Their Scaffolding. *Aksioma: Jurnal Program Studi Pendidikan Matematika*, 12(1), 778. <https://doi.org/10.24127/ajpm.v12i1.6437>

- Setiawan, R., & Mitasari, Z. (2020). Penerapan Scaffolding sebagai Upaya dalam Meningkatkan Level Berpikir Matematis Siswa Ditinjau dari Taksonomi SOLO. *MUST: Journal of Mathematics Education, Science and Technology*, 5(1), 68. <https://doi.org/10.30651/must.v5i1.4855>
- She, H. C., Chen, M. J., Huang, L. Y., & Hsueh, C. Y. (2025). Unfolding the cognitive process underlying computer-based scientific conceptual change with eye tracker: Behavioral performance and sequential analysis of attention. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-025-13577-7>
- Suherman, S., Sumarni, P., Harisman, Y., Sumarwati, S., Sovia, A., & Syaputra, H. (2023). Miskonsepsi Mahasiswa pada Mata Kuliah Kalkulus Dalam Proses Pembelajaran Daring. *Aksioma: Jurnal Program Studi Pendidikan Matematika*, 12(2), 2559. <https://doi.org/10.24127/ajpm.v12i2.7453>
- Sun, L., Kangas, M., Ruokamo, H., & Siklander, S. (2023). A systematic literature review of teacher scaffolding in game-based learning in primary education. In *Educational Research Review* (Vol. 40). Elsevier Ltd. <https://doi.org/10.1016/j.edurev.2023.100546>
- Syuhendri, S. (2017). A Learning Process Based On Conceptual Change Approach To Foster Conceptual Change In Newtonlan Mechanlcs. *Journal of Baltic Science Education*, 16(2), 229–240.
- Thomann, H., & Deutscher, V. (2025). Scaffolding through prompts in digital learning: A systematic review and meta-analysis of effectiveness on learning achievement. *Educational Research Review*, 47. <https://doi.org/10.1016/j.edurev.2025.100686>
- Unaenah, E., Fazriandina, A., Robiah, S., Damiyah, A., Ningsih, Y. A., Alia, F., Berliana, N., & Gunawan, A. N. (2020). Analisis miskonsepsi pengenalan pada pecahan menggunakan media pembelajaran. In *Educatif: Journal of Education Research* (Vol. 2, Issue 2). <http://pub.mykreatif.com/index.php/educatif>
- van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher-student interaction: A decade of research. In *Educational Psychology Review* (Vol. 22, Issue 3, pp. 271–296). <https://doi.org/10.1007/s10648-010-9127-6>
- Widayani, H., Fisika, G., Aliyah, M., Insan, N., & Jambi, C. (2023). Pengembangan Test Diagnostik Miskonsepsi Peserta Didik Pada Materi Dinamika Partikel Berbentuk Four-Tier. *Technical and Vocational Education International Journal Februari 2023*, 3(1), 2721–9798. <https://doi.org/10.556442>
- Wirda dan Arhamni, E., & Wirda, E. (2022). Miskonsepsi Siswa Sekolah menengah Pertama Pada Materi Bangun datar Segi Empat. *Jurnal Ilmiah Pendidikan Pembelajaran*, 9(2).
- Yan, L., Martinez-Maldonado, R., Jin, Y., Echeverria, V., Milesi, M., Fan, J., Zhao, L., Alfredo, R., Li, X., & Gašević, D. (2024). The Effects of Generative AI Agents and Scaffolding on Enhancing Students' Comprehension of Visual Learning Analytics. *Computers & Education*. <https://doi.org/10.1016/j.compedu.2025.105322>