

DAFTAR PUSTAKA

- Afnanda, M. (2023). Menelaah Kembali Teori Belajar dan Gaya Belajar. *Qualitative Research in Educational Psychology*, 1(01), 12–22. Retrieved from <https://journal.nubaninstitute.org/index.php/qrep/article/view/6>
- Agusningtyas, D., Erika, F., & Qadar, R. 2024. Analysis of Teachers' Needs for Interactive E-Module to Train Critical Thinking Skills in the Merdeka Curriculum Era. *International Journal of STEM Education for Sustainability*, Vol. 4, No. 1, pp. 79 – 96. DOI: 10.53889/ijses.v4i1.342
- Agustika, G. N. S., & Diputra, K. S. (2025). Effectiveness of hybrid project-based learning with digital portfolios in enhancing mathematics pedagogical content knowledge. *Indonesian Journal of Educational Development (IJED)*, 6(2), 293–308. <https://doi.org/10.59672/ijed.v6i2.4923>
- Agustini, K., Santyasa, I.W., & Ratminingsih, N.M. (2019). Analysis of Competence on “TPACK”: 21st Century Teacher Professional Development. *International Conference on Education, Science and Technology. Journal of Physics: Conference Series* 1387 (2019) 012035. DOI:10.1088/1742-6596/1387/1/-12-35
- Albatti, H. 2023. Blended Learning in English Language Teaching and Learning: A Focused Study on a Reading and Vocabulary Building Course. *World Journal of English Language* Volume 13, issue 2, page 121-130. DOI: 105430/wjel.v13n5p121
- Al-Shara, O. & Baker, N.L. 2005. Interdisciplinary Project Based Learning (IPBL) in the Imaging Technology Center: A Case Study. *Proceedings of the IASTED International Conference on Education and Technology, ICET 2005*
- Angeli, C. & Valanides, N. 2020. Developing Young Children's Computational Thinking with Educational Robotics: An Interaction Effect Between Gender and Scaffolding Strategy. *Computers in Human Behaviour*, 105, 105954, <https://doi.org/10.1016/j.chb.2019.03.018>
- Anggraini, N. T., & Susanti, S. (2025). Pengembangan E-Modul Berbasis Pembelajaran Berdiferensiasi Ditinjau dari Gaya Belajar Siswa pada Elemen Perpajakan Fase F. *Jurnal Studi Guru Dan Pembelajaran*, 8(2), 1188–1200. <https://doi.org/10.30605/jsgp.8.2.2025.6555>
- Arranz-Garcia, O., & Secades, V.A. 2019. Development of project-based learning (PBL) in blended learning mode for the Acquisition of Digital Competence.

Multi Conference on Computer Science and Information System, MCCSIS 2019 – Proceedings of the International Conference on e-learning 2019. DOI:10.33965/el2019_201909c040

Association for Educational Communications and Technology. 2023. AECT definition for education technology. <https://www.aect.org/aect/about/aect-definition> (diakses pada 3 September 2025)

Bandura, A. (1994). Self-Efficacy. In V. S. Ramachaudran (Ed.), Encyclopedia of Human Behaviour (Vol. 4, pp. 71 – 81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998).

Barnett, W.S. 2011. Effectiveness of Early Childhood Education. Science, 333(6045), 975 – 978

Bautista, N. (2011). Investigating the use of vicarious and mastery experiences in influencing early childhood education majors' self-efficacy beliefs. Journal of Science Teacher Education, 22, 333–349. <https://doi.org/10.1007/s10972-011-9232-5>

Bati, K. 2022. A Systematic Literature Review Regarding Computational Thinking and Programming in Early Childhood Education. Education and Information Technologies Vol. 27 (2):2059-2082. Doi: 10.1007/s10639-021-10700-2

Baird, T.J. & Clark, L.E. 2018. The 'Look-Ahead' Professional Development Model. Professional Development Model for Implementing New Curriculum with Focus on Instructional Strategies. Professional Development in Education Vol. 44 (3): 326 – 341. Doi: 10.1080/19415257.2017.1308424

Bell, F. 2009. Connectivism: A Network Theory for Teaching and Learning in a Connected World. Educational Developments: The Magazine of The Staff and Educational Development Association (SEDA) Issue 10.3, September 2009. ISSN: 1469-3267

Bers, M.U. 2021. From Computational Thinking to Computational Doing. Teaching Computational Thinking and Coding to Young Children, Ch 1:1-20. Doi: 10.4018/978-1-7998-7308-2.ch001

Blanchette, J.F. 2012. Viewpoint: Computing as if Infrastructure Mattered. Communications of ACM Vol.55 (10):32-34. Doi:10.1145/2347736.2347748

- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. New York: Springer Science & Business Media.
- Bull, G., Garofalo, J., Hguyen, N.R. 2020. Thinking About Computational Thinking: Origins of Computational Thinking in Educational Computing. *Journal of Digital Learning in Teacher Education* Vol. 36, Issue 1, Pages 6 – 18. DOI: 10.1080/21532974.2019.1694381
- Cabrera, L. 2019. Teacher Preconceptions of Computational Thinking: A Systematic Literature Review. *Jl.of Technology and Teacher Education*, 27(3), 305-333. <https://learntechlib.org/primary/p/210234/>
- Candiasa, I Made. (2011). *Statistika univariat dan bivariat disertai aplikasi SPSS*. Singaraja: Undiksha Pers.
- Chaeruman, U.A. (2014). *Petunjuk Teknis Bimbingan Praktek Kerja Individu/Kelompok Pelatihan Penulisan Modul Online*. Jakarta: Pusat Teknologi Informasi dan Komunikasi The Representasional Fluency and Conceptual Pendidikan Kementerian Pendidikan dan Kebudayaan.
- Choi, J., Lee, J. H., & Kim, B. (2019). How does learner-centered education affect teacher self-efficacy? The case of project-based learning in Korea. *Teaching and Teacher Education*, 85, 45–57. <https://doi.org/10.1016/j.tate.2019.05.005>
- Ciftci, A. & Topcu, M.S. (2023). Improving Early Childhood Pre-Service Teachers' Computational Thinking Skills Through the Unplugged Computational Thinking Integrated STEM Approach. *Thinking Skill and Creativity* Vol. 49. Doi: 10.1016/j.tsc.2023.101337
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.
- Das Neves Salles, W., Folle, A., Farias, G.O., do Nascimento, J.V. (2020). Teaching Self-Efficacy and Factors Associated with the Teaching Practice of Physical Education Faculty. *Journal of Physical Education* Vol. 31, Issue 1. DOI: 10.4025/JPHYSEDUC.V31I1.3116
- Deshmukh, A. M., & Chalmeta, R. (2024). Validation of system usability scale as a usability metric to evaluate voice user interfaces. *PeerJ Computer Science*, 10, e1801. DOI: <https://doi.org/10.7717/peerj-cs.1801>
- Dewi, A.C. (2025). Pengembangan E-Book Interaktif Berbasis Literasi Visual untuk Meningkatkan Pemahaman Teks Sastra di SMP. *Jurnal Skripta* Vol. 11 No.1, Mei 2025 (hal. 60 – 70)

- Dragnić-Cindrić, D., & Anderson, J. L. (2025). Developing pre-service teachers' pedagogical content knowledge: Lessons from a science methods class. *Education Sciences*, 15(7), 1–24. <https://doi.org/10.3390/educsci15070860>
- Duke, B., Harper, G., & Johnston, M. (2013). *Connectivism. The International HETL Review Special Issue*. New York: The International HETL Association. ISSN: 2164 – 3091
- Fauth, B., et al. 2019. The Effect of Teachers Competence on Student Outcomes in Elementary Science Education: The Mediating Role of Teaching Quality. *Teaching and Teacher Education* Vol. 86. doi: 10.1016/j.tate.2019.102882
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Gavora, P. 2010. Slovak Pre-Service Teacher Self-Efficacy: Theoretical and Research Considerations. *New Educational Review* Vol. 21 Issue 2 Pages 17 – 30.
- Gerosa, A., Koleszar, V., Tejera, G., Gómez-Sena, L., & Carboni, A. 2022. Educational Robotics Intervention to Foster Computational Thinking in Preschoolers: Effects of Children's Task Engagement. *Frontiers in Psychology* Vol. 13. DOI: 10.3389/fpsyg.2022.904761
- Georgiou, K & Angeli, C. 2019. Developing Preschool Children's Computational Thinking with Educational Robotics: The Role of Cognitive Differences and Scaffolding. 16th International Conference on Cognition and Exploratory Learning in Digital Age, CELDA 2019:101-108. Doi: 10.33965/celda2019_2019111013
- Georgiou, K. & Angeli, C. 2021. Developing Computational Thinking in Early Childhood Education: A Focus on Algorithmic Thinking and the Role of Cognitive Differences and Scaffolding. In D. Ifenthaler, D.G. Sampson, & P. Isaias (Eds), *Balancing the Tension Between Digital Technologies and Learning Science. Cognition and Exploratory Learning in the Digital Age* (pp.33 – 49). Cham: Springer. https://doi.org/10.1007/978-3-030-65657-7_3
- Greefrath, G., Siller, H.-S., Klock, H., & Wess, R. (2021). Pre-service Secondary Teachers' Pedagogical Content Knowledge for the Teaching of Mathematical Modelling. *Educational Studies in Mathematics* (2022) 109: 383 – 407. <https://doi.org/10.1007/s10649-021-10038-z>

- Hake, R. R. (1999). Analyzing change/gain scores. American Educational Research Association. <https://www.physics.indiana.edu/~sdi/AnalyzingChange-Gain.pdf> (diakses tanggal 20 Mei 2026)
- Harrington, D. (2009). Confirmatory Factor Analysis. New York: Oxford University Press
- Hariyono, & Andrini, V. S. (2020a). Contribution of Project-Based Blended Learning (PjB2L) Learning Model to Technopreneurs Ability in Higher Education. International Journal of Advanced Multidisciplinary Scientific Research, 3(4), 1–15. <https://doi.org/10.31426/ijamsr.2020.3.4.3211>
- Hartell, E. 2017. Teachers' Self-Efficacy in Assessment in Technology Education. Encyclopedia of Earth Sciences Series pages 1 – 16. DOI: 10.1007/978-3-319-38889-2_56-1
- Hartono, C. P., Agustini, K., & Sudatha, I. G. W. (2025a). Systematic Literature Review: Efektivitas Pembelajaran *Plugged* dan *Unplugged* dalam Meningkatkan Kemampuan Berpikir Komputasional Siswa. JIIP - Jurnal Ilmiah Ilmu Pendidikan, 8(1), 1043-1050. <https://doi.org/10.54371/jiip.v8i1.6746>
- Hartono, C. P., Agustini, K., & Suartama, I. K. (2025b). Systematic literature review: The influence of various models of teacher training programs in implementing computational thinking in the classroom. Indonesian Journal of Educational Research and Review, 8(3), 619–633. <https://doi.org/10.23887/ijerr.v8i3.101454>
- Hedges, L. V., & Olkin, I. (1985). Statistical methods for meta-analysis. Academic Press.
- Hendriyani, Y., Ambiyar, Sukardi, & Effendi, H. 2020. The Development of Interactive Project Based E-Module in Visual Program Course. Advances in Social Science, Education, and Humanities, Vol. 504 in Proceedings of the 2nd International Conference Innovation in Education (ICoIE 2020)
- Hujatusnaini, N., Corebima, A.D., Prawiro, S.R., Gofur, A. 2022. The Effect of Blended Project-Based Learning Integrated with 21st Century Skills on Pre-Service Biology Teachers' Higher Order Thinking Skills. JPPII (1) (2022) 104–118. DOI: 10.15294/jpii.v1i1.27148
- Jakhaia, N. (2018). L2 Teachers' Efficacy: The Impact of Professional Development. Electronic Theses and Dissertations. 495. <https://egrove.olemiss.edu/etd/495>

- Kalogiannakis, M. & Kanaki, K. 2023. Introducing Computational Thinking Unplugged in Early Childhood Education Within the Context of Physical and Natural Science Courses: A Pilot Study in Greece. *Research Anthology on Computational Thinking, Programming, and Robotics in The Classroom* Vol. 1:197-222. Doi: 10.4018/978-1-6684-2411-7.ch010
- Kementerian Pendidikan Dasar dan Menengah. 2025a. Naskah Akademik Pembelajaran Mendalam: Menuju Pendidikan Bermutu Untuk Semua. Bada Standar, Kurikulum, dan Asesmen Pendidikan.
- Kementerian Pendidikan Dasar dan Menengah. 2025b. Naskah Akademik Pembelajaran Koding dan Kecerdasan Artifisial Pada Pendidikan Dasar dan Menengah. Badan Standar, Kurikulum, dan Asesmen Pendidikan.
- Kutluca, A.Y. (2021). Exploring Preschool Teachers' Pedagogical Content Knowledge: The Effect of Professional Experience. *J.Sci.Learn.*2021.4(2).2.160-172. <https://doi.org/10.17509/jsl.v4i2>
- Lazarides, R., & Warner, L.M. (2020). *Teacher Self-Efficacy*. USA: Oxford Research Encyclopedia. Oxford University Press
- Lee, J.H., Joswick, C., & Pole, K. 2023. Classroom Play and Activities to Support Computational Thinking Development in Early Childhood. *Early Childhood Education Journal* Vol 51, Issue 3, pages 457 – 468. DOI: 10.1007/s10643-022-01319-0
- Li, X., Zhu, W. The influence factors of students' transferable skills development in Blended-Project-Based Learning environment: a new 3P model. *Educ Inf Technol* 28, 16561–16591 (2023). <https://doi.org/10.1007/s10639-023-11892-5>
- Lye, S.Y., & Koh, J.H.L. (2014). Review on Teaching and Learning of Computational Thinking Through Programming: What is Next for K-12?. *Computers in Human Behaviour*, (4)1, 51- 61.
- Maharani, S., Nusantara, T., As'ari, A.R., & Qohar, A. 2020. *COMPUTATIONAL THINKING Pemecahan Masalah di Abad ke-21*. WADE group National Publishing. ISBN: 978-623-7548-63-8
- Marino, M.T., et al. 2018. *Teaching and Learning with Technology*. The Wiley Handbook of Educational Foundation, P.245-260. Doi: 10.1002/9781118931837.ch15
- Marsiti, C. I. R., Santyasa, I. W., Sudatha, I. G. W., & Sudarma, I. K. (2023). The effect of project-based blended learning and students' creativity on

eleventh-grade students' learning achievement. *International Journal*
<https://doi.org/10.29333/iji.2023.16445a>

Mayer, R.E. (2002). *Multimedia Learning. The Psychology of Learning and Motivation*, Vol. 41. USA: Elsevier Science

Maysara. (2022). *Teori Konstruktivisme dalam Pembelajaran. Dalam buku: Teori Belajar dan Pembelajaran*. Tuban: Yayasan Pendidikan Hidayatun Nihayah. ISBN: 978-623-10-8917-5

McKlin, T., Lee, T., Wanzer, D., Magerko, B., Edwards, D., Grossman, S., Bryans, E., Freeman, J. 2019. Exploring the Correlation Between Teacher Pedagogical Content Knowledge and Content Knowledge in Computer Science Classroom. *Annual Conference on Innovation and Technology in Computer Science Education, ITiCSE*. DOI: 10.1145/3304221.3325556

Miguel, C.C. 2023. Technology and Early childhood Education: Digital Literacy and Unplugged Computing. *Cadernos CEDES* Vol. 43, Issue 120, pages 60 – 72. DOI: 10.1590/CC271211

Morrison, A.D. & Luttenegger, K.C. 2015. Measuring Pedagogical Content Knowledge Using Multiple Points of Data. *Qualitative Report* Vol. 20, issue 6 Page 804 – 816. ISSN: 21603715

Mursyidi, W. (2019). Kajian Teori Behaviorisme dan Desain Instruksional. *Al Marhalaj, Jurnal Pendidikan Islam* Vol. 3 No.1. E-ISSN 27162 – 400

Nurhikmah, H., Hakim, A., & Wahid, M.S. 2021. Interactive E-Module Development in Multimedia Learning. *Al-Ishlah: Jurnal Pendidikan* Vol.3 (3), December 2021. DOI:10.35445/alishlah.v13i3.863

Nurlina, Nurfadilah, & Bahri, A. (2021). *Teori Belajar dan Pembelajaran*. Makasar: LPP UNISMUH

Ozcinar, H. 2022. A Brief on Incentives and Barriers to Computational Thinking Education. *Research Anthology on Computational Thinking, Programming, and Robotics in the Classroom* Vol 1, Pages: 253 – 269. DOI: 10.4018/978-1-6684-2411-7.ch012

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). McGraw-Hill Education.

Quinn, M., Caudle, L.A., & Harpers, F.K. 2025. Embracing Culturally Relevant Computational Thinking in the Preschool Classroom: Leveraging Familiar

Contexts for New Learning. *Early Childhood Education Journal* Vol. 53, Issue 2, Pages 393 – 403. DOI: 10.1007/s10643-023-01581-w

Rahmiati, Saputra, I., Oktarina, R. 2023. Interactive Electronic Module: Is It Beneficial for Learning?. *Journal for Lesson & learning Studies* Vol.6, No. 2, 2023 pp. 209-218. <https://doi.org/10.23887/jlls.v6i2.60477>

Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.

Rich, P.J., Larsen, R.A., & Mason, S.L. 2021. Measuring Teachers Beliefs of Coding and Computational Thinking. *Journal of Research on Technology in Education*, 53 (3), 296-316. <https://doi.org/10.1080/15391523.2020.1771232>

Rusli, R.K., & Kholik, M.A. (2013). Teori Belajar dalam Psikologi Pendidikan. *Jurnal Sosial Humaniora* Vol. 2 No. 2, Oktober 2013. ISSN 2087 – 4928.

Salehudin, M. (2023). Menggunakan Model Pembelajaran untuk Implementasi Computational Thinking Bagi Guru Madrasah. *Edusaintek: Jurnal Pendidikan, Sains, dan Teknologi* Vol. 10 (2):407-425. <https://doi.org/10.47668/edusaintek.v10i2.780>

Saptayana, I.K.A. (2023). Pengaruh Model Project-Based Blended Learning Berbantuan Quizizz Terhadap Kemampuan Pemecahan Masalah dan Prestasi Belajar Matematika Siswa kelas XI SMK. Tesis. Bali: Universitas Pendidikan Ganesha.

Saputra, A.Y., Abd Aziz, N.B., & Fadhil, M.A. (2025). Challenges and Self-Efficacy of Primary School Teachers in Supporting Learning of Students with Autism Spectrum Disorders in Inclusive Classroom in Lombok Timur. *Jurnal Ilmiah Pendidikan Dasar* Vol. 5 No. 3. <https://doi.org/10.37081/jipdas.v5i3.3924>

Shahbana, E.B., Farizqi, F.K., & Satria, R. (2020). Implementasi Teori Belajar Behavioristik dalam Pembelajaran. *Jurnal Serunai Administrasi Pendidikan* Vol. 9 No.1. Maret 2020. E-ISSN 2620-9209

Shonkoff, J.P., & Phillips, D.A. 2000. *From Neurons to Neighborhoods: The Science of Early Childhood Development*. National Academics Press.

Shpeizer, R. 2019. Towards a Successful Integration of Project-Based Learning in Higher Education: Challenges, Technologies and Methods of

Implementation. Universal Journal of Educational Research Vol. 7, Issue 8, pages 1765 – 1771. DOI: 10.13189/ujer.2019.070815

Shute, V.J., Sun, C., & Asbell-Clarke, J. 2017. Demystifying Computational Thinking. Educational Research Review, 22, 142-158. <https://doi.org/10.1016/j.edurev.2017.09.003>

Singarimbun, M., & Effendi, S. (1995). Metode Penelitian Survei. Jakarta: LP3ES.

Singh, K. 2014. Blended Professional Learning – Modelling the Paradigm Shift. Proceedings of ASCILITE 2014 – Annual Conference of the Australian Society for Computers in Tertiary Education pages 404 - 409

Singhal, V. 2022. Precoding Skill-Teaching Computational Thinking to Preschoolers in Singapore using Unplugged Activities. Proceedings of International Conference on Computational Thinking Education p.86-87. Doi: 10.34641/ctestem.2022.452

Sudarma, I. K., Prabawa, D. G., & 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, 1043-1049.

Sudarma, I. K., Teguh, I. M., & Prabawa, D. G. (2015). Desain Pesan: Kajian Analitis Desain Visual. Yogyakarta: Graha Ilmu.

Sugiyono. (2019). Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, Kombinasi, R&D dan Penelitian Pendidikan). Bandung: Alfabeta

Sumartini, T. S., Rahayu, D. V., Noordiana, M. A., Lurytawati, I. P., & Mardiani, D. (2019). Student pedagogical content knowledge through project based learning models. Journal of Physics: Conference Series, 1280. <https://doi.org/10.1088/1742-6596/1280/4/042051>

Sundayana, R. (2016). Statistika penelitian pendidikan. Alfabeta.

Suria, O. (2024). A Statistical Analysis of System Usability Scale (SUS) Evaluations in Online Learning Platform. Journal of Information Systems and Informatics, 6(2), 521-534. DOI: <https://doi.org/10.51519/journalisi.v6i2.695>

Tank, K.M., et al. Pathways to Inclusive Early Childhood Computational Thinking Education: Unveiling Yong Students' Strategies with Multiples Representations. Journal of Research on Technology in Education Vol. 57 (1): 2-25. Doi: 10.1080.15391523.2024.24

- Tegeh, I Made, dan Kirna. (2010). *Metode Penelitian Pengembangan Pendidikan*. Singaraja: Undiksha
- Torabzadeh, S., & Hashamdar, M. (2022). Exploring Differences in Novice and Experienced Teachers' Self-Efficacy: A Mixed Method Study. *MEXTESOL Journal*, Vol. 46 No.1, 2022.
- Waddington, J. (2023). Self-Efficacy. *ELT Journal* Vol 77/2, April 2023. <https://doi.org/10.1093/elt/ccaco46>
- Wiana, I.W. (2023). *Pengaruh Model Project Based Blended Learning Berbantuan 3D Geogebra terhadap Pemahaman Konsep dan Kreatifitas Siswa Kelas VII*. Tesis. Bali: Universitas Pendidikan Ganesha
- Wing, J. M. (2006). Computational Thinking. *Commun. ACM* 49, 33 – 35. Doi: 10.1145/1118178.1118215
- Wing, J.M. (2011). Computational Thinking: What and Why?. Available online at: <https://api.semanticscholar.org/CorpusID:63382972> (accessed September 26, 2025)
- Yadav, A., Good, J., Voogt, J., & Fisser, P. 2017. Computational Thinking as an Emerging Competence Domain. *Technical & Vocational Education and Training* Vol. 23 Pages 1051 – 1067. DOI: 101007/978-319-41713-1_49
- Yang, W. 2025. A Three-phase Professional Development Approach to Improving Robotics Pedagogical Knowledge and Computational Thinking Attitude of Early Childhood Teachers. *Computers and Education* Vol. 231. DOI: 10.1016/j.compedu.2025.105282
- Yuliantina, I. (2025). Development of Learning Strategies to Integrate Computational Thinking in Early Childhood Education Curriculum: A Study on 36 Early Childhood Education Units in Kudus. *Jurnal Pendidikan Usia Dini* Vol. 19, No. 1, 37 – 47. DOI:10.21009/jpud.v19il.40841
- Yuliana, I., Octavia, L.P., & Sudarmilah, E. Computational Thinking Digital Media to Improve Digital Literacy. *IOP Conference Series: Material Science and Engineering* Vol. 821, Issue 1
- Zhang, Y. & Wong, G.K.W. 2024. Exploring the Interplay of Computational Thinking and Mathematics in Early Childhood Education: A Systematic Review. 15th IEEE Global Engineering Education Conference, EDUCON. Doi: 10.1109/EDUCON60312.2024.10578653