Daftar Pustaka

- Abas, S., Agustin, M., Wahyu, S., & Atep, S. (2015). *Application of Stem in Improving Mastery of Mathematics Concept of Speed Materials at Elementary School Grade (Class) V.* 2(Oecd).
- Adri, M., Ganefri, Sri Wahyuni, T., Zakir, S., & Jama, J. (2020). Using ADDIE Instructional Model to Design Blended Project-Based Learning based on Production Approach. *International Journal of Advanced Science and Technology*, 29(06), 1899–1909.
- Ahdhianto, E., Marsigit, Haryanto, & Santi, N. N. (2020). The effect of metacognitive-based contextual learning model on fifth-grade students' problem-solving and mathematical communication skills. *European Journal of Educational Research*, 9(2), 753–764. https://doi.org/10.12973/eu-jer.9.2.753
- Aksu, Z., & Kul, Ü. (2019). The Mediating Role of Mathematics Teaching Efficacy on the Relationships Between Pedagogical Content Knowledge and Mathematics Teaching Anxiety. SAGE Open, 9(3). https://doi.org/10.1177/2158244019871049
- Aldahmash, A. H., Alamri, N. M., Aljallal, M. A., & Bevins, S. (2019). Saudi Arabian science and mathematics teachers' attitudes toward integrating STEM in teaching before and after participating in a professional development program. *Cogent Education*, 6(1), 1–21. https://doi.org/10.1080/2331186X.2019.1580852
- Alodwan, T., & Almosa, M. (2018). The Effect of a Computer Program Based on Analysis, Design, Development, Implementation and Evaluation (ADDIE) in Improving Ninth Graders' Listening and Reading Comprehension Skills in English in Jordan. *English Language Teaching*, 11(4), 43. https://doi.org/10.5539/elt.v11n4p43
- Anderson, J., English, L., Fitzallen, N., & Symons, D. (2020). Research in Mathematics Education in Australasia 2016–2019. In *Research in Mathematics Education in Australasia 2016–2019* (Issue April). https://doi.org/10.1007/978-981-15-4269-5
- Bahatheg, R. O. (2019). Critical Thinking Skills in Elementary School Curricula in some Arab Countries—A Comparative Analysis. *International Education Studies*, 12(4), 217. https://doi.org/10.5539/ies.v12n4p217
- Bakırcı, H., & Karışan, D. (2017). Investigating the Preservice Primary School, Mathematics and Science Teachers' STEM Awareness. *Journal of Education* and Training Studies, 6(1), 32. https://doi.org/10.11114/jets.v6i1.2807
- Barnes, J. (2019). Musical Theater. 2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI), 366.
- Basri, H., Purwanto, As'ari, A. R., & Sisworo. (2019). Investigating critical thinking skill of junior high school in solving mathematical problem. *International Journal of Instruction*, 12(3), 745–758. https://doi.org/10.29333/iji.2019.12345a
- Beswick, K., & Fraser, S. (2019). Developing mathematics teachers' 21st century competence for teaching in STEM contexts. *ZDM Mathematics Education*, *51*(6), 955–965. https://doi.org/10.1007/s11858-019-01084-2

Budoya, C. M., Kissaka, M., & Mtebe, J. (2019). Instructional Design Enabled Agile Method Using ADDIE Model and Feature Driven Development Process. International Journal of Education and Development Using Information and Communication Technology, 15(1), 35–54.

- Burton, M. (2019). *Teaching Mathematics : Multiple Perspectives among Teacher Candidates during a STEM Field Experience*. 12(1), 90–106.
- Cargas, S., Williams, S., & Rosenberg, M. (2017). An approach to teaching critical thinking across disciplines using performance tasks with a common rubric. *Thinking Skills and Creativity*, 26, 24–37. https://doi.org/10.1016/j.tsc.2017.05.005
- Chen, C. H., & Yang, Y. C. (2019). Revisiting the effects of project-based learning on students' academic achievement: A meta-analysis investigating moderators. *Educational Research Review*, 26(October 2018), 71–81. https://doi.org/10.1016/j.edurev.2018.11.001
- Corbeil, J. R., Dick, W., Carey, L., & Carey, J. O. (n.d.). *EDTC 6321: Instructional Design SUMMER I SYLLABUS*.
- Desmi, A., & Yanti, R. (2019). Effectiveness of Characteristic Model of Traffic Flows in Simpang 4 Road Bireun (Comparison with Greenshield, Greenberg, Underwood) Methods. 19(4).
- Dkk, S. R. (2020). the Stem Approach : the Development of Rectangular.
- Elfrida, Y., Siregar, Y., Rachmadtullah, R., & Pohan, N. (2020). Dampak sains, teknologi, teknik, dan matematika (STEM) pada berpikir kritis di sekolah dasar.
- Erdoğan, F. (2020). The relationship between prospective middle school mathematics teachers' critical thinking skills and reflective thinking skills. *Participatory Educational Research*, 7(1), 220–241. https://doi.org/10.17275/per.20.13.7.1
- Evangelou, F., & Kotsis, K. (2019). Real vs virtual physics experiments: comparison of learning outcomes among fifth grade primary school students. A case on the concept of frictional force. *International Journal of Science Education*, 41(3), 330–348. https://doi.org/10.1080/09500693.2018.1549760
- Facione, P. A., Facione, N. C., & Beach, H. (2011). *The Holistic Critical Thinking Scoring Rubric*. 650, 1–2. https://doi.org/10.1109/50.737414
- Graphs, R. A., Graphs, R. A., Mathematics, P., Primary, E., & Education, M. (n.d.). *Reasoning about graphs in*.
- Hott, B. L., Dibbs, R. A., Naizer, G., Raymond, L., Reid, C. C., & Martin, A. (2019). Practitioner Perceptions of Algebra Strategy and Intervention Use to Support Students With Mathematics Difficulty or Disability in Rural Texas. *Rural Special Education Quarterly*, 38(1), 3–14. https://doi.org/10.1177/8756870518795494
- Huda, S., Sholikhakh, R. A., Bina, N. S., Lestari, F., Habibi, B., & Suharso, P. (2019). Effect of application smart circuit learning media to mathematics learning outcomes: A case study of Islamic School Students. *Journal for the Education of Gifted Young Scientists*, 7(3), 699–715. https://doi.org/10.17478/jegys.597053

J.Moleong, L. (2005). metodologi penelitian kualitatif. Remaja Rosdakarya.

- Jacob, S. M. (2012). Analyzing critical thinking skills using online discussion forums and CCTST. *Procedia - Social and Behavioral Sciences*, *31*(2011), 805–809. https://doi.org/10.1016/j.sbspro.2011.12.145
- Jiea, P. Y., Hussin, H., & Chuan, T. C. (2019). Robotics Competition-Based Learning for 21St Century Stem Education. *Journal of Human Capital Development*, 12(1), 83–100.
- John W. Creswell. (2012). *No Title*. Boston: Pearson Education, Inc.
- Kay, R. (2020). Analyzing the use of mathematics apps in elementary school classrooms. *Contemporary Educational Researches Journal*, *10*(2), 68–78. https://doi.org/10.18844/cerj.v10i2.4732
- Kuo, H. C., Tseng, Y. C., & Yang, Y. T. C. (2019). Promoting college student's learning motivation and creativity through a STEM interdisciplinary PBL human-computer interaction system design and development course. *Thinking Skills and Creativity*, *31*(August 2018), 1–10. https://doi.org/10.1016/j.tsc.2018.09.001
- Maass, K., Geiger, V., Ariza, M. R., & Goos, M. (2019). The Role of Mathematics in interdisciplinary STEM education. *ZDM - Mathematics Education*, *51*(6), 869–884. https://doi.org/10.1007/s11858-019-01100-5
- Mailizar, Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers during the COVID-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7). https://doi.org/10.29333/EJMSTE/8240
- Mariam, N., & Nam, C. (2019). The Development of an ADDIE Based Instructional Model for ELT in Early Childhood Education. *Educational Technology International*, 20(1), 25–55.
- Maričić, S., & Špijunović, K. (2015). Developing Critical Thinking in Elementary Mathematics Education through a Suitable Selection of Content and Overall Student Performance. *Procedia - Social and Behavioral Sciences*, 180(November 2014), 653–659. https://doi.org/10.1016/j.sbspro.2015.02.174
- Miller, J. (2019). STEM education in the primary years to support mathematical thinking: using coding to identify mathematical structures and patterns. ZDM Mathematics Education, 51(6), 915–927. https://doi.org/10.1007/s11858-019-01096-y
- Moyer, J., Huinker, D., & Cai, J. (2004). Developing Algebraic Thinking in the Earlier Grades: A Case Study of the US Investigations Curriculum. *The Mathematics Educator*, 8(1), 6–38.

Nur, A. S. (2020). Kata kunci : 2020, 100–107.

- Ofosu-Asare, Y. A. W., Essel, H. B., & Bonsu, F. M. (2019). E-Learning Graphical User Interface Development Using the Addie Instruction Design Model and Developmental Research: The Need to Establish Validity and Reliability. *Journal of Global Research in Education and Social Science*, *May*, 78–83.
- Reimers, F., Schleicher, A., Saavedra, J., & Tuominen, S. (2020). Supporting the continuation of teaching and learning during the COVID-19 pandemic. *Oecd*, I(1), 1–38.
- Rhodes, T., & Lancaster, K. (2020). Mathematical models as public troubles in

COVID-19 infection control : following the numbers. https://doi.org/10.1080/14461242.2020.1764376

- Rudyanto, H. E., Hadi, F. R., Winanto, A., Novianto, A., Hawa, A. M., Sari, Y., Khoiriyah, I. S. A., & Santika, M. (2019). Open Ended Mathematical Problem Solving: An Analysis of Elementary Students' Creative Thinking Abilities. *Journal of Physics: Conference Series*, 1254(1). https://doi.org/10.1088/1742-6596/1254/1/012077
- Saiful, A., Farid, M., Suminar, T., Wringinjajar, N., & Tengah, J. (2019). Jurnal Pendidikan Dasar Pengembangan Mobile Learning Pendidikan Matematika Realistis di sekolah dasar. 8(2), 169–175.
- Sharma, S., Jain, K. K., & Sharma, A. (2015). Solar Cells: In Research and Applications—A Review. *Materials Sciences and Applications*, 06(12), 1145–1155. https://doi.org/10.4236/msa.2015.612113
- Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. *Eurasia Journal of Mathematics*, *Science and Technology Education*, 16(7), 1–6. https://doi.org/10.29333/EJMSTE/7893
- Subia, G. S., Marcos, M. C., Pascual, L. E., Tomas, A. V, & Liangco, M. M. (2020). Cognitive Levels as Measure of Higher-Order Thinking Skills in Senior High School Mathematics of Science, Technology, Engineering and Mathematics (STEM) Graduates. April.
- Sugiyono. (2011). Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D). Alfabeta.
- Taylor, L. (2004). Educational Theories and Instructional Design Models . Their Place in Simulation . *Health*.
- Tran, T., Hoang, A. D., Nguyen, Y. C., Nguyen, L. C., Ta, N. T., Pham, Q. H., Pham, C. X., Le, Q. A., Dinh, V. H., & Nguyen, T. T. (2020). Toward sustainable learning during school suspension: Socioeconomic, occupational aspirations, and learning behavior of vietnamese students during COVID-19. *Sustainability (Switzerland)*, 12(10). https://doi.org/10.3390/su12104195
- Vossen, T. E. (2019). Attitudes of Secondary School STEM Teachers towards Supervising Research and Design Activities.
- Widyastuti, E., & Susiana. (2019). Using the ADDIE model to develop learning material for actuarial mathematics. *Journal of Physics: Conference Series*, *1188*(1). https://doi.org/10.1088/1742-6596/1188/1/012052
- Wright, T. S., & Domke, L. M. (2019). The Role of Language and Literacy in K-5 Science and Social Studies Standards. *Journal of Literacy Research*. https://doi.org/10.1177/1086296X18821141
- Yasin, M., Jauhariyah, D., Madiyo, M., Rahmawati, R., Farid, F., Irwandani, I., & Mardana, F. F. (2019). The guided inquiry to improve students mathematical critical thinking skills using student's worksheet. *Journal for the Education* of Gifted Young Scientists, 7(4), 1345–1360. https://doi.org/10.17478/jegys.598422
- YILDIRIM, B., SAHİN TOPALCENGİZ, E., ARIKAN, G., & TİMUR, S. (2020). Using Virtual Reality in the Classroom: Reflections of STEM Teachers on the Use of Teaching and Learning Tools. *Journal of Education in Science, Environment and Health*. https://doi.org/10.21891/jeseh.711779

Zhang, J. (2020). The Construction of College English Online Learning Community under ADDIE Model. *English Language Teaching*, *13*(7), 46. https://doi.org/10.5539/elt.v13n7p46

