

DAFTAR PUSTAKA

- Álvarez , I., Gómez-Chacón , I. M. & Ursini, S. (2015). Understanding the algebraic variable: Comparative study of Mexican and Spanish students. *Eurasia Journal of Mathematics, Science & Technology Education*, 11(6), hlm. 1507-1529.
- Arcavi, A. (2005). Developing and using symbol sense in mathematics. *For the Learning of Mathematics*, 14(3), hlm. 42–47.
- Artigue, M. (2009). Didactical design in mathematics education. Dalam C. Winsløw (Penyunting), *Nordic Research in Mathematics Education. Proceedings of NORMA08, Copenhagen, 21st-25th April 2008*. (hlm. 7-16). Rotterdam: Sense Publishers.
- Asquith, P., Stephens, A. C., Knuth, E. J. & Alibali, M. W. (2007). Middle school mathematics teachers' knowledge of students' understanding of core algebraic concepts: Equal sign and variable. *Mathematical Thinking and Learning*, 9(3), hlm. 249-272.
- Bagni, G. T. (2000). "Simple" rules and general rules in some high school students' mistakes. *Journal für Mathematikdidaktik*, 21(2), hlm. 124-138.
- Bakker, A., Smit, J. & Wegerif, R. (2015). Scaffolding and dialogic teaching in mathematics education: introduction and review. *ZDM Mathematics Education*, 47(7), 1047-1065. DOI: 10.1007/s11858-015-0738-8
- Battista, M. T. (2011). Conceptualizations and issues related to learning progressions, learning trajectories, and levels of sophistication. *The Mathematics Enthusiast*, 8(3), hlm. 507-570.
- Bingolbali, E., Akkoç, H., Ozmantar, M. F. & Demir, S. (2011). Pre-Service and in-service teachers' views of the sources of students' mathematical difficulties. *International Electronic Journal of Mathematics Education*, 6(1), hlm. 40-59. Diakses dari http://www.mathedujournal.com/dosyalar/IJEM_v6n1_3.pdf

- Booth, J. L. & Koedinger, K. R. (2008). Key misconception in algebraic problem solving. Dalam B. C. Love, K. McRae & V. M. Slotsky (Penyunting), *Proceedings of the 30th Annual Cognitive Science Society* (hlm. 571-576). Austin, TX: Cognitive Science Society.
- Brousseau, G. (2002). *Theory of Didactical Situations in Mathematics*. New York: Kluwer Academic Publishers.
- Brown, S. A. (2008). Exploring epistemological obstacles to the development of mathematics induction. Dalam M. Zandieh (Penyunting), *Proceeding of the 11th Conference for Research on Undergraduate Mathematics Education*, San Diego, CA. Diakses dari http://sigmaa.maa.org/rume/crume2008/Proceedings/S_Brown_LONG.pdf
- Brown, T. (2016). Rationality and belief in learning mathematics. *Educational Studies in Mathematics*, 92(1), hlm. 75-90. DOI: 10.1007/s10649-015-9670-7
- Bush, S. B. (2011). *Analyzing Common Algebra-Related Misconceptions and Errors of Middle School Students*. (Dissertation) Department of Teaching and Learning, Faculty of the College of Education and Human Development, University of Louisville.
- Bush, S. B. & Karp, K. S. (2013). Prerequisite algebra skills and associated misconceptions of middle grade students: A review. *The Journal of Mathematical Behavior*, 32(3), hlm. 613-632.
- Caglayan, G. & Olive, J. (2010). Eighth grade students' representations of linear equations based on a cups and tiles model. *Educational Studies in Mathematics*, 74(2), hlm. 143-162. DOI: 10.1007/s10649-010-9231-z
- Carraher, D. W., Martinez, M. V. & Schliemann, A. D. (2008). Early algebra and mathematical generalization. *ZDM Mathematics Education*, 40(1), hlm. 3-22. DOI: 10.1007/s11858-007-0067-7

- Castro-Gordillo, W. F. & Godino, J. D. (2014). Preservice elementary teacher's thinking about algebraic reasoning. *Mathematics Education*, 9(2), hlm. 147-162. Diakses dari http://www.iejme.com/makale_indir/187
- Chick, H. L. & Baker, M. K. (2005). Investigating teachers' response to student misconceptions. Dalam Chick, H. L. & Vincent, J. L. (Penyunting). *Proceedings of the 29th Conference of the International Group for the Psychology of Mathematics Education*, Vol. 2, (hlm. 249-256). Melbourne: PME.
- Clements, D. H. & Sarama, J. (2004). Learning trajectories in mathematics education. *Mathematical Thinking and Learning*, 6(2), hlm. 81-89.
- Clements, D. H. & Sarama, J. (2009). *Learning and Teaching Early Math: The Learning Trajectories Approach*. New York, NY: Routledge.
- Creswell, J. W. (2013). *Research Design Pendekatan Kualitatif, Kuantitatif, dan Mixed* (A. Fawaid, Penerjemah). Yogyakarta: Pustaka Pelajar.
- D'Amore, B. (2008). Epistemology, didactics of mathematics and teaching practices. *Mediterranean Journal for Research in Mathematics Education*, 7(1), hlm. 1-22.
- Daro, P., Mosher, F. A. & Corcoran, T. (2011). *Learning Trajectories in Mathematics: A Foundation for Standards, Curriculum, Assessment, and Instruction*. Philadelphia, PA: Consortium for Policy Research in Education.
- Egodawatte. G. (2011). *Secondary School Students' Misconceptions in Algebra*. (Doctoral Thesis) Department of Curriculum, Teaching and Learning Ontario Institute for Studies in Education, University of Toronto. Diakses dari https://tspace.library.utoronto.ca/bitstream/1807/29712/1/EgodawatteArachchigeDon_Gunawardena_201106_PhD_thesis.pdf
- Empson, S. B. (2011). On the idea of learning trajectories: Promises and pitfalls. *The Mathematics Enthusiast*, 8(3), hlm. 571-598.

- Gallardo, A. (2002). The extension of the natural-number domain to the integers in the transition from arithmetic to algebra. *Educational Studies in Mathematics*, 49(2), hlm. 171–192.
- Gooding, S. (2009). Children's difficulties with mathematical word problems. Dalam M. Joubert (Penyunting), *Proceedings of the British Society for Research into Learning Mathematics* 29(3) November 2009. (hlm. 31-36).
- Herscovics, N. & Linchevski, L. (1994). A cognitive gap between arithmetic and algebra. *Educational Studies in Mathematics*, 27(1), hlm. 59-78.
- Hewitt, D. (2012). Young students learning formal algebraic notation and solving linear equations: Are commonly experienced difficulties avoidable?. *Educational Studies of Mathematics*, 81(2), hlm. 139-159. DOI: 10.1007/s10649-012-9394-x
- Jones, I. & Pratt, D. (2012). A substituting meaning for the equal sign in arithmetic notating tasks. *Journal for Research in Mathematics Education*, 43(1), hlm. 2-33.
- Jupri, A., Drijvers, P. & van den Heuvel-Panhuizen, M. (2014a). Difficulties in initial algebra learning in Indonesia. *Mathematics Education Research Journal*, 26(4), hlm. 683-710. DOI: 10.1007/s13394-013-0097-0
- Jupri, A., Drijvers, P. & van den Heuvel-Panhuizen, M. (2014b). Student difficulties in solving equation from an operational and a structural perspective. *Mathematics Education*, 9(1), hlm. 39-55. Diakses dari http://www.mathedujournal.com/dosyalar/IJEM_v9n1_4.pdf
- Jupri, A., Drijvers, P. & van den Heuvel-Panhuizen, M. (2015). Improving grade 7 students' achievement in initial algebra through a technology-based intervention. *Digital Experiences in Mathematics Education*, 1(1), hlm. 28-58. DOI: 10.1007/s40751-015-0004-2

- Kansanen, P. (2003). Studying the realistic bridge between instruction and learning: an attempt to a conceptual whole of the teaching-studying-learning process. *Educational Studies*, 29(2/3), hlm. 221-232.
- Kementrian Pendidikan dan Kebudayaan Republik Indonesia. (2014). *Matematika SMP/MTs Kelas VIII Semester 2*. Jakarta: Kemendikbud.
- Kieran, C. (2004). Algebraic thinking in the early grades: What is it?. *The Mathematics Educator*, 8(1), hlm. 139-151.
- Kieran, C. (2006). Research on the learning and teaching of algebra. Dalam A. Gutiérrez & P. Boero (Penyunting), *Handbook of Research on the Psychology of Mathematics Education: Past, Present and Future*, (hlm. 11–49). Rotterdam: Sense Publisher.
- Kislenko, K. (2006). Structuring students' beliefs in mathematics: A Norwegian case. *Proceedings of the MAVII2 Workshop*. Ivalo, May 2006.
- Kislenko, K., Breiteig, T. & Grevholm, B. (2005). Beliefs and attitudes in mathematics teaching and learning. Dalam I. M. Stedøy (Penyunting), *Vurdering i matematikk – Hvorfor og hvordan? Fra småskole til voksenopplæring. Nordisk konferanse I matematikdidaktikk ved NTNU 15. og 16 November 2004* (hlm. 129-138). Trondheim: Nasjonal Senter for Matematikk i Opplæringen.
- Kislenko, K., Grevholm, B. & Lepik, M. (2005). “Mathematics is important but boring”: Students’ beliefs and attitudes towards mathematics. Dalam C. Bergsten, B. Grevholm, H. S. Måsøval & F. Rønning (Penyunting), *Relating Practice and Research in Mathematics Education. Proceedings of NORMA05, Fourth Nordic Conference on Mathematics Education, Trondheim, 2-6 September 2005*. (hlm. 349-360). Trondheim: Tapir Academic Press.
- Knuth, E. J., Stephens, A. C., McNeil, N. M. & Alibali, M. W. (2006). Does understanding the equal sign matter? Evidence from solving equations. *Journal for Research in Mathematics Education*, 37(4), hlm. 297-312.

- Lima, R. N. & Tall, D. (2008). Procedural embodiment and magic in linear equation. *Educational Studies in Mathematics*, 67(1), hlm. 3-18. DOI: 10.1007/s10649-007-9086-0
- Lutz, S. & Huitt, W. (2004). Connecting cognitive development and constructivism: Implications from theory for instruction and assessment. *Constructivism in the Human Sciences*, 9(1), hlm. 67-90.
- Malisani, E. & Spagnolo, F. (2009). From arithmetical thought to algebraic thought: The role of the “variable”. *Educational Studies in Mathematics*, 71(1), hlm. 19-41. DOI: 10.1007/s10649-008-9157-x
- Matic, L. J. (2014). Mathematical knowledge of non-mathematics students and their beliefs about mathematics. *Mathematics Education*, 9(1), hlm. 13-24. Diakses dari http://www.mathedujournal.com/dosyalar/IJEM_v9n1_5.pdf
- Matthews, P., Rittle-Johnson, B., McEldoon, K. & Taylor, R. (2012). Measure for measure: What combining diverse measures reveals about children’s understanding of the equal sign as an indicator of mathematical equality. *Journal for Research in Mathematics Education*, 43(3), hlm. 316-350.
- McCrorry, R., Floden, R., Ferrini-Mundy, J., Reckase, M. D. & Senk, S. L. (2012). Knowledge of algebra for teaching: a framework of knowledge and practises. *Journal for Research in Mathematics Education*, 43(5), hlm. 584-615.
- McIntyre, Z. S. (2007). *An Analysis of Variable Misconception Before and After Various Collegiate Level Mathematics Course*. (Thesis) The Graduate School, The University of Maine. Diakses dari http://umaine.edu/center/files/2009/12/McIntyre_Thesis.pdf
- Moleong, L. J. (2011). *Metodologi Penelitian Kualitatif*. Bandung: PT Remaja Rosdakarya.

- Moru, E. K. (2007). Talking with the literature on epistemological obstacles. *For the Learning of Mathematics*, 27(3), hlm. 34-37.
- Mousley, J., Sullivan, P. & Zevenbergen, R. (2004). Alternative learning trajectories. Dalam I. Putt, R. Faragher & M. McLean (Penyunting), *Mathematics education for the third millennium: towards 2010, Proceeding of 27th Mathematics Education Research Group of Australasia. Conference 27-30 June 2004.* (hlm. 374-381). Pymble, N.S.W.: Merga. Diakses dari <http://www.alternatyvuisugdymas.lt/uploads/2009/12/11-03-07-AU-vertimas-nr.-25.Alternative-Learning-Trajectories.pdf>
- National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics*. Reston, Va.: National Council of Teachers of Mathematics.
- Nyikahadzoyi, M. R., Mapuwei, T. & Chinyoka, M. (2013). Some cognitive obstacles faced by 'a' level mathematics students in understanding inequalities: A case study of Bindura Urban High School. *International Journal of Academic Research in Progressive Education and Development*, 2(2), hlm. 206-221.
- Perrin-Glorian, M. (2008). From producing optimal teaching to analyzing usual classroom situation. Development of a fundamental concept in the theory of didactic situations: The notion of milieu. Disajikan pada *The First Century of the International Commission on Mathematical Instruction (1908-2008), Reflecting and Shaping the World of Mathematics Education*. Diakses dari <https://www.unige.ch/math/EnsMath/Rome2008/WG5/Papers/PERRIN.pdf>
- Piaget, J. (1973). *To Understand Is To Invent: The Future of Education*. New York, NY: Grossman Publishers.

- Pirie, S. E. B. & Martin, L. (1997). The equation, the whole equation and nothing but the equation! One approach to the teaching of linear equation. *Educational Studies in Mathematics*, 34(2), hlm. 159-181.
- Pritchard, A. & Woollard, J. (2010). *Psychology for the Classroom: Constructivism and Social Learning*. New York, NY: Routledge.
- Radford, L. (2008). Theories in mathematics education: A brief inquiry into their conceptual differences. *Working Paper. June 2008. Prepared for the ICMI Survey Team 7. The notion and role of theory in mathematics education research*.
- Radford, L. (2015). Early algebraic thinking: Epistemological, semiotic, and developmental issues. Dalam S. J. Cho (Penyunting), *The Proceedings of the 12th International Congress on Mathematical Education*. (hlm. 209-227). DOI: 10.1007/978-3-319-12688-3_15
- Rakes, C. R. (2010) *Misconceptions in Rational Numbers, Probability, Algebra, and Geometry*. (Dissertation) Department of Teaching and Learning, Faculty of the College of Education and Human Development, University of Louisville.
- Rose, M. B. (2011). *Learners' Errors and Misconceptions Associated with Common Fraction*. (Mini Disertation) Faculty of Education, University of Johannesburg. Diakses dari <http://ujdigispace.uj.ac.za/bitstream/handle/10210/8049/Mdaka.pdf?sequence=1>
- Ruthven, K., Laborde, C., Leach, J. & Tiberghien, A. (2009). Design tools in didactical research: Instrumenting the epistemological and cognitive aspects of the design of teaching sequences. *Educational Researcher*, 38(5), hlm. 329-342. DOI: 10.3102/0013189X09338513
- Salinan Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Nomor 67 Tahun 2013 Tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Dasar/Madrasah Ibtidaiyah.

- Salinan Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Nomor 68 Tahun 2013 Tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Pertama/Madrasah Tsanawiyah.
- Salinan Lampiran Peraturan Menteri Pendidikan dan Kebudayaan Nomor 69 Tahun 2013 Tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Atas/Madrasah Aliyah.
- Samo, M. A. (2009). Students' perceptions about the symbols, letters, and signs in algebra and how do these affect their learning of algebra: A case study in a Government Girl's Secondary School, Karachi. *International Journal for Mathematics Teaching and Learning*. Diakses dari www.cimt.plymouth.ac.uk/journal/samo.pdf
- Sarma, M. & Ahmed, M. (2013). A Study on the difficulty of teaching and learning mathematics in under graduate level with special reference to Guwahati City. *International Journal of Soft Computing and Engineering*, 3(1), hlm. 409-412.
- Schnepper, L. C. & McCoy, L. P. (2013). Analysis of misconceptions in high school mathematics. *Networks*, 15(1). Diakses dari <http://journals.library.wisc.edu/index.php/networks/article/download/625/627>
- Sfard, A. & Linchevski, L. (1994). Between arithmetic and algebra: In the search of a missing link the case of equation and inequalities. *Rendicondi del Seminario Matematico*, 52(3), hlm. 279-307.
- Sriraman, B. & English, L. D. (2005). On the teaching and learning of Dienes' principles. *International Reviews in Mathematics Education (ZDM)*, 37(3), hlm. 258-262.
- Suryadi, D. (2010). Menciptakan Proses Belajar Aktif: Kajian dari Sudut Pandang Teori Belajar dan Teori Didaktik. Disajikan pada *Seminar Nasional Pendidikan Matematika*, 9 Oktober 2010, Universitas Negeri Padang, Padang.

- Suryadi, D. (2013). Didactical design research (DDR) to improve the teaching of mathematics. *Far East Journal of Mathematical Education*, 10(1), hlm. 91-107.
- Swanson, D. & Williams, J. (2014). Making abstract mathematics concrete in and out of school. *Educational Studies of Mathematics*, 86(2), hlm. 193-209. DOI: 10.1007/s10649-014-9536-4
- Tall, D. (2004). The three worlds of mathematics. *For the Learning of Mathematics*, 23(3), hlm. 29–33.
- van Amerom, B. A. (2003). Focusing on informal strategies when linking arithmetic to early algebra. *Educational Studies in Mathematics*, 54(1), hlm. 63-75.
- van Dooren, W., Verschaffel, L. & Onghena, P. (2003). Pre-service teacher's preferred strategies for solving arithmetic and algebra word problem. *Journal of Mathematics Teacher Education*, 6(1), hlm. 27-52.
- Viholainen, A., Asikainen, M. & Hirvonen, P. E. (2014). mathematics student teachers' epistemological beliefs about the nature of mathematics and the goals of mathematics teaching and learning in the beginning of their studies. *Eurasia Journal of Mathematics, Science & Technology Education*, 10(2), hlm. 159-171.
- Vlassis, J. (2002). The balance model: Hindrance or support for the solving of linear equation with one unknown. *Educational Studies in Mathematics*, 49(3), hlm. 341-359.
- Vygotsky, L. S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.
- Warfield, V. M. (2006). *Invitation to Didactique*. Diakses dari <https://www.math.washington.edu/~warfield/Inv%20to%20Did66%207-22-06.pdf>

- Welder, R. M. (2006). Prerequisite knowledge for the learning of algebra. Disajikan pada *Conference on Statistics, Mathematics and Related Fields*, Januari 2006, Honolulu, Hawaii.
- Wilson, P. H., Mojica, G. F. & Confrey, J. (2013). Learning trajectories in teacher education: Supporting teachers' understandings of students' mathematical thinking. *The Journal of Mathematical Behavior*, 32(2), hlm. 103-121.
- Wilson, P. H., Sztajn, P., Edgington, C. & Confrey, J. (2013). Teachers' use of their mathematical knowledge for teaching in learning a mathematical learning trajectory. *Journal of Mathematics Teacher Education*, 17(2), hlm. 149-175. DOI: 10.1007/s10857-013-9256-1
- Yasar, M. (2016). High school students' attitudes towards mathematics. *Eurasia Journal of Mathematics, Science & Technology Education*, 12(4), hlm. 931-945. Diakses dari <http://iserjournals.com/journals/ejmste/download/10.12973/eurasia.2016.1571a>