

DAFTAR PUSTAKA

- ACDP Indonesia. *Asesmen Kompetensi Siswa Indonesia (AKSI)*. Retrieved from <http://rekap.kemdikbud.go.id/>
- Allen, M.J., & Yen, W. M. (1979). *Introduction to measurement theory*. Belmont: Wadsworth, Inc.
- Arends, R. I., & Kilcher, A. (2010). *Introduction to research in education*. Belmont, CA : Wadsworth.
- Asempapa, R. S. (2015). Mathematical modeling: Essential for elementary and middle school students. *Journal of Mathematics Education*, 8(1), 16-29.
- Attridge, N., & Inglis, M. (2013). Advanced Mathematical Study and the Development of Conditional Reasoning Skills. *PLoS ONE* 8(7), 1 – 8.
- Azwar, S. (2012). *Penyusunan Skala Psikologi (Edisi 2)*. Yogyakarta: PustakaPelajar.
- Bandura, A. (1978). Self-efficacy towards a unifying theory of behavioural change. *Psychological Review*, 84(2), 139 - 161.
- Bandura, A., & Wood, R. E. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*. 56, 805 – 814.
- Bandura, A. (2009) *Self-efficacy in changing societies*. Cambridge, UK: Cambridge University Press.
- Bandura, A. (2016). *Moral disengagement: How people do harm and live with themselves*. New York: Worth.
- Beghetto, R. A., & Karwowski, M. (2017). Toward untangling creative self-beliefs. In M. Karwowski & J. C. Kaufman, *The creative self: Effect of beliefs, self-efficacy, mindset, and identity*, (pp. 3 – 22). UK: Academic Press.
- Bell, E. T. (1951). *Mathematics: Queen and Servant of Sciences*. New York: McGraw-Hill.
- Blackett, N., & Tall, D. O. (1991). Gender and the versatile learning of trigonometry using computer software. In F. Furinghetti (Ed.), *Proceedings of the 15th conference of the International Group for the Psychology of Mathematics Education* (Vol.1, pp. 144–151). Assisi, Italy: PME.
- Blanton, M. L., & Kaput, J. J. (2011). Functional thinking as a route into algebra

- in elementary grades. In J. Chai & E. Knuth (Eds.), *Early algebraization: A global dialogue from multiple perspectives*, (pp. 1-22). Berlin, Heidelberg: Springer-Verlag.
- Blum W., & Borromeo-Ferri, R. (2009). Mathematical modeling: Can it be taught and learnt? *Journal of Mathematical Modeling and Application*, 1(1), 45-58.
- Blum, W. (2015). Quality teaching of mathematical modelling: what do we know, what can we do? In S.J. Cho (ed.), *The Proceedings of the 12th International Congress on Mathematical Education*, 73-96.
- Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review*, 15, 1-40.
- Bong, M., Cho, C., Ahn, H. S., & Kim, H. J. (2012). *Comparison of self-beliefs for predicting student motivation and achievement*. Taylor & Francis Ltd.
- Borromeo-Ferri, R., & Lesh, R. (2013). Should interpretation systems be considered to be models if they only function implicitly? In G.A. Stillman et al. (Eds.), *Teaching Mathematical Modelling: Connecting to Research and Practice* (pp. 57 – 66). Dordrecht: Springer Science+Business Media.
- Cai, J., Cirillo, M., Pelesko, J.A., Borromeo-Ferri, R., Geiger, V., Stillman, G., & Kwon, O. (2014). Mathematical modeling in school education: Mathematical, cognitive, curricular, instructional, and teacher education perspectives. *Proceedings of the 38th meeting of the International Group for the Psychology of Mathematics Education*, Vancouver, Canada: IGPME. 145-172.
- Casas, M. (2011). *Enhancing student learning in middle school*. New York, NY: Routledge.
- Chamberlin, S. A., & Coxbill, E. (2013). *Using model-eliciting activities to introduce upper elementary students to statistical reasoning and mathematical modeling*.
- Chamberlin, S. A., & Moon, S. M. (2005). Model-eliciting activities as a tool to develop and identify creatively gifted mathematicians. *Prufrock Journal*, 17(1), 37-47.
- Chamberlin, S.A., & Moon, S. M. (2008). How does the problem based learning approach compare to the model-eliciting activity approach in mathematics? *International Journal of Mathematics Teaching and Learning*, 9(3), 78-105.
- Chen, J. A., & Usher, E. L. (2013). Profiles of the sources of science self efficacy.

Learning and Individual Differences, 24, 11–21.

- Clark, R.M., Shuman, L. J., Basterfield-Sacre, M. & Yildirim T.B. (2008). Use of model eliciting activities to improve problem solving by industrial engineering students. In J. Fowler and S. Mason (Eds.) *Proceedings of the 2008 Industrial Engineering Research Conference*.
- Dahar, R.W. (1989). *Teori-teori belajar*. Jakarta: Erlangga.
- Das, R., & Das, G.C. (2013). Math anxiety: The poor problem solving factor in school mathematics. *International Journal of English Language Education*, 1(1), 204-221.
- Dundar, S., & Yaman, H. (2015). How do prospective teachers solve routine and non routine Trigonometry Problems? *International Online Journal of Educational Sciences*, 7(2), 41-57.
- English, L. D., & Gainsburg, J. (2016). Problem solving in a 21st- Century mathematics education. In L. D. English & D. Kirshner (Eds.), *Handbook of international research in mathematics education* (pp. 313–335). NY: Routledge.
- Erdem, E., & Gürbüz, R. (2015). An analysis of seventh-grade students' mathematical reasoning. *Cukurova University Faculty of Education Journal*, 44, 123–142.
- Fatima, S.K., & Rao, D.B. (2008). *Reasoning ability of adolescent students*. New Delhi: Discovery Publishing House Pvt. Ltd.
- Francisco, J. F., & Maher, C. A. (2005). Conditions for promoting reasoning in problem solving: Insights from a longitudinal study. *Journal of Mathematical Behavior*, 24, 361-372.
- Frosch, C., & Simms, V. (2015). Understanding the role of reasoning ability in mathematical achievement. *EuroAsianPacific Joint Conference on Cognitive Science. EuroAsianPacific Joint Conference on Cognitive Science*, 1 – 7.
- Gagne, R.M. (1977). *The conditions of learning*. New York: HoltMcDougal
- Getzels, J. W., & Csikszentmihalyi, M. (1976). *The creative vision: A longitudinal study of problem finding in art*. New York: Wiley.
- Gorman, R. M. (1974). *The Psychology of classroom learning: an inductive approach*. Columbus, OH: Merrill Publishing Company.
- Greefrath, G., & Vorhölter, K. (2016). *Teaching and learning mathematical modelling: Approaches and developments from German speaking*

countries. Switzerland: Springer.

Hacket, G., & Betz, N. E. (1989). An exploration of the mathematics self-efficacy/ mathematics correspondence. *Journal for Research in Mathematics Education*, 20(3), 261-273.

Hosnan, M. (2014). *Pendekatan saintifik dan kontekstual dalam pembelajaran abad 21*. Bogor: Penerbit Ghalia Indonesia.

Illeris, K. (2007). *How we learn: Learning and non-learning in school and beyond*. New York: RoutledgeTaylor & Francis Group.

Imhausen A. (2016). *Mathematics in Ancient Egypt: A Contextual History*. New Jersey: Princeton University Press.

Jeanotte, D., & Kieran, C. (2017). A conceptual model of mathematical reasoning for school mathematics. *Educational Study in Mathematics*, 96(1), 1 – 16.

Jeotee, K. (2012) *Reasoning skills, problem solving ability and academic ability: Implications for study programme and career choice in the context of higher education in Thailand*. Disertasi : Durham University.

Johansson, H. (2016). Mathematical reasoning requirements in swedish national physics test. *International Journal of Science and Mathematics Education*, 14(6), 1113 – 1152.

Jonassen, D. H. (2004). *Learning to solve problem: an instructional design guide*. San Fransisco, CA: Pfeiffer.

Joyce, B.R., Weil, M., & Calhoun, E. (2008). *Models of Teaching*. Boston: Allyn and Bacon.

Jurdak, M. (2016). *Learning and teaching real world problem solving in school mathematics: A multiple perspective frameworkd for crossing boundary*. Switzerland: Springer.

Kamalimoghaddam, H., Tarmizi, R. A., Ayub, A. F. M., & Jaafar, W. M. W. (2016). Confirmatory model of mathematics self-efficacy, problem solving skills and prior knowledge on mathematics achievement: A structural equation model. *Malaysian Journal of Mathematical Sciences*, 10(S): 187–200.

Kemendikbud. (2013). *Pendekatan saintifik (Ilmiah) dalam pembelajaran*. Jakarta: Pusbangprodik.

Kemendikbud. (2016). *Modul Matematika SMA Kelompok Kompetensi G: Kurikulum Matematika 1, Kalkulus dan Trigonometri*. Jakarta: Direktorat

Jenderal Guru dan Tenaga Kependidikan

- Ko, Y., & Knuth, E. J. (2013) Validating proofs and counterexamples across content domains: Practices of importance for mathematics majors. *The Journal of Mathematical Behavior*, 32, 20 – 35.
- Kitsantas, A., Cheema, J., & Ware, H. W. (2011). Mathematics achievement: The role of homework and self-efficacy beliefs. *Journal of Advanced Academics*, 22(2), 310-339.
- Krulik, S., Rudnick, J., & Milou, E. (2003). *Teaching mathematics in Middle School A practical guide*. Boston.
- Kudo, H., & Mori, K. (2015). A preliminary study of increasing self efficacy in junior high school students: Induced success and a vicarious experience. *Psychological Reports*, 117(2), 631–642.
- LaFrance, J. A. & Beck, D. (2018). Learner Self-Efficacy in K-12 Online Environments. In C. B. Hodges (Ed.). *Self-Efficacy in Instructional Technology Context* (pp. 229-244). Switzerland: Springer Nature.
- Lefrancois, G. R. (2000). *Psychology for Teaching*. Belmont, CA: Wadsworth.
- Lesh, R., Hoover, M., Hole, B., Kelly, A., & Post, T. R. (2000) Principles for Developing Thought-Revealing Activities for Students and Teachers. In A. Kelly, R. Lesh (Eds.), *Research Design in Mathematics and Science Education*. (pp. 591-646). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Lesh, R., & Doerr, H. M. (2003). *Beyond Constructivism, Models and Modeling Perspectives on Mathematics Problem Solving, Learning, and Teaching*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Lesh, R.A., & Zawojewski, J. S. (2007). Problem solving and modelling. In F. Lester (Ed.), *Second Handbook of Research on Mathematics Teaching and Learning: A Project of the National Council of Teachers of Mathematics* (pp. 763– 804). Charlotte, NC: Information Age Publishing.
- Lester, F. K., & Kehle, P. E. (2003). From problem-solving to modeling: The evolution of thinking about research on complex mathematical activity. In R. Lesh, & H. Doerr, (Eds.), *Beyond constructivism: Models and modeling perspectives on mathematics problem solving, learning, and teaching* (pp. 501-518). Mahwah, NJ: Lawrence Erlbaum Associates.
- Lester, F. (2013). Thoughts about research on mathematical problem-solving instruction. *The Mathematics Enthusiast*, 10(1–2), 245–278.
- Lithner, J. (2008). A research framework for creative and imitative reasoning.

Educational Studies in Mathematics, 67(3), 255–276.

Lithner, J. (2014). Mathematical reasoning in task solving. *Educational Studies in Mathematics*, 41(2), 165–190.

Lithner, J. (2017). Principles for designing mathematical tasks that enhance imitative and creative reasoning. *ZDM - The International Journal on Mathematics Education*, 49(6): 937-949.

Liu, X., & Koirala, H. (2009). The effect of mathematics self-efficacy on mathematics achievement of high school students. *NERA Conference Proceedings*, 30(1), 1- 10.

Lunenburg, F. C. (2010). Communication: The process, barriers, and improving effectiveness. *Schooling*, 1, 1-11.

Maciejewski, W. (2019). Future-Oriented Thinking and Activity in Mathematical Problem Solving. In P. Liljedahl, & M. Santos-Trigo (Eds.), *Mathematical problem solving: Current themes, trends, and research* (pp. 21 – 38). Switzerland: Springer.

Maaß, K. (2005). Barriers and opportunities for the integration of modelling in mathematic classes- results of an empirical study. *Teaching Mathematics and Its Applications*, 24(2-3), 61-74.

Maher, C. A., & Yankelewitz, D. (2017). *Children's reasoning while building fraction ideas*. Rotterdam: Sense Publishers.

Mayer, R. E. (1992). *Thinking, problem solving, cognition*. New York: Freeman.

McCoach, D. B., Gable, R. K., & Madura, J. P. (2013). *Instrument development in the affective domain*. London, UK: Springer.

McCory, R., & Stylianides, A. J. (2014). Reasoning-and-proving in mathematics textbooks for prospective elementary teachers. *International Journal of Educational Research*, 64, 119 – 131.

Mediani, M. (18 April 2018). *Siswa Pusing Jawab Soal UN, Mendikbud Kejar Standar Dunia*. CNN Indonesia.
<https://www.cnnindonesia.com/nasional/20180418080259-20-291597/siswa-pusing-jawab-soal-un-mendikbud-kejar-standar-dunia>

Minsky, M. (1961). Recursive unsolvability of post's problem of "tag" and other topics in the theory of turing machines. *Annals of Mathematics*, 74(3), 437–455.

Moshman, D. (2015). *Epistemic cognition and development : the psychology of justification and truth*. NY: Psychology Press.

- Mousoulides, N. (2008). A modelling perspective in the teaching and learning of mathematical problem solving. *Mathematical Thinking and Learning*, 10, 293–304.
- Mousoulides, N. G., Cristhou, C., & Sriraman, B. (2006). *From problem solving to modelling- A meta analysis*.
- Mueller, M., & Maher, C. (2010). *Promoting equity through reasoning*. The National Council of Teacher of Mathematics: Teaching Children Mathematics (May 2010).
- Mueller, M., Yankelwits, D., & Maher, C. (2014). Teachers promoting student mathematical reasoning. *Investigations in Mathematics Learning*, 7(2), 1-20.
- Nabie, M., Akayuure, A., Ibrahim-Bariham, U. A., & Sofo, S. (2018). Trigonometric concepts: Pre-service teachers' perceptions and knowledge. *Journal on Mathematics Education*, 9(2), 169-182.
- Napitulu, E. E. (2017). Analyzing the Teaching and Learning of Mathematical Reasoning Skills in Secondary School. *Asian Social Science*, 13(12), 167-173.
- National Council of Teachers of Mathematics (2000). *Principles and Standards for School Mathematics*. Reston (VA): The Council Teachers of Mathematics
- National Council of Teachers of Mathematics (2009). *A Teacher's guide to reasoning and sense making*.
- National Research Council (NRC). (2001). *Adding it up: Helping Children Learn Mathematics*. Washington, DC: National Academy Press
- Newell, A., & Simon, H.A. (1972). *Human problem solving*. Oxford, England: Prentice-Hall.
- Nitko, A.J., & Brookhart, S.M. (2011). *Educational assessment of students (6th ed.)*. Upper Saddle River, NJ: Pearson Education, Inc.
- Norqvist, M. (2016). *On mathematical reasoning – being told or finding out*. Doctoral thesis, comprehensive summary: Umeå University.
- Novak J.D. (2010). Learning, creating, and using knowledge: Concept maps as facilitative tools in schools and corporations. *Journal of e-Learning and Knowledge Society*, 6(3), 21 - 30
- Olson, H. O., & Hergenhahn, B. R. (2015). *Theories of Learning*. Jakarta: Kencana.

- Ozturk, T., & Guvem, B. (2016). Evaluating students' beliefs in problem solving process: A case study. *Eurasia Journal of Mathematics Science & Technology Education*, 12(2), 411-429.
- Pajares, F. (2005). *Self-efficacy beliefs of adolescents*. Greenwich, CT: Information Age Publishing.
- Pajares, F., & Miller, M. D. (1994). The Role of Self-Efficacy and Self-Concept Beliefs in Mathematical Problem-Solving: A Path Analysis. *Journal of Educational Psychology*, 86, 193-203.
- Pajares, F., & Kranzler, J. (1995). Self-efficacy beliefs and general mental ability in mathematical problem solving. *Contemporary Educational Psychology*, 20(4), 426-443.
- Pampaka, M., Kleanthous, I., Hutcheson, G. D., & Wake, G. (2011). Measuring mathematics self-efficacy as learning outcome. *Research in Mathematics Education*, 13(2), 169–190.
- Republik Indonesia. (2003). Undang-Undang Nomor 20 Tahun 2003, Sistem Pendidikan Nasional.
- Republik Indonesia. (2006). Peraturan Menteri Pendidikan Nasional Nomor 22 Tahun 2006, Standar Isi.
- Republik Indonesia. (2016). Peraturan Menteri Pendidikan dan Kebudayaan Nomor 24 tahun 2016, Kompetensi Inti dan Kompetensi Dasar.
- Protheroe, N. (2007). What does good math instruction look like? *Principal*, 7(1), pp. 51 – 54.
- Pimta, S., Tayruakham, S., & Nuangchalerm, P. (2009). Factors influencing mathematics problem solving ability of sixth grade students. *Journal of Social Sciences*, 5(4), 381-385.
- Pollak, H. O. (1979). The Interaction between Mathematics and Other School Subjects In: *UNESCO (ed.): New Trends in Mathematics Teaching IV*, Paris, 232-248.
- Polya, G. (1981). *Mathematical discovery: On understanding, learning and teaching problem solving: Combined Edition*. New York: John Wiley and Sons, Inc.
- Polya, G. (1985). *How to solve it*. Princeton, USA: Princeton University Press.
- Posamentier, A. S., & Krulik S. (2009). *Problem-solving in mathematics grades 3-6: Powerful strategies to deepen understanding*. Thousand Oaks: Corwin A Sage Company

- Rahmah. (2017). Asesmen Kompetensi Siswa Indonesia (AKSI). Hasil Seminar Puspendik. Diambil dari : [https:// puspendik.kemdikbud.go.id](https://puspendik.kemdikbud.go.id)
- Randhawa, B.S., Lundberg, I., & Beamer, J.E. (1993). Role of mathematics self-efficacy in the structural model of mathematics achievement. *Journal of Educational Psychology*, 85(1), 41-48.
- Reynolds, C.R., Livingston, & Wilson, V. (2010). *Measurement and assesment in education*. Boston: Pearson.
- Riedel, E. (2017). *Students' Mathematics Self-Efficacy, Anxiety, and Course Level at a Community College*. Disertasi: Walden University.
- Sanhadi, K.C.D. (2015). Pengaruh kemampuan penalaran dan self-efficacy terhadap hasil belajar matematika siswa kelas VIII. *Seminar Nasional Matematika dan Pendidikan Matematika UNY 2015*.
- Santillán, A.G., Escalera-Chavez, M., Moreno-Garcia, E., & Santa-Villegas, J. C. (2016). Factors that explains student anxiety toward mathematics. *Eurasia Journal of Mathematics, Science & Technology Education*, 12(2), 361-372.
- Santrock, J.W. (2011). *Educational Psychology: Fifth Edition*. NY: McGraw-Hill.
- Sharma, H. L., & Nasa, G. (2014). Academic self-efficacy: A reliable predictor of educational performance. *British Journal of Education*, 2(3), 57-64.
- Schunk, D. H. (2008). Attributions as Motivators of Self-Regulated Learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and Self-Regulated Learning: Theory, Research, and Applications*, Pp. 245–266. NJ: Erlbaum.
- Schunk, D.H. (2012). *Learning theory (6th ed)*. Boston : Pearson.
- Schunk, D. H., & Meece, J. L. (2006). Self-Efficacy Development in Adolescence. In F. Pajares, & T. Urdan (Eds.), *Self-Efficacy Beliefs of Adolescents* (pp. 71-96). Greenwich, CT: Information Age Publishing.
- Schunk, D. H., & DiBenedetto, M. K. (2014). Academic self-efficacy. In M. J. Furlong, R. Gilman, & E. S. Huebner (Eds.), *Handbook of Positive Psychology in Schools* (pp. 115–130). New York: Routledge.
- Selmer, S., & Kale, U. (2013). Teaching mathematics through problem solving. *Innovation Education*, 13(62), 45-59.
- Sidenvall, J., Lithner, J., & Jäder, J. (2014). Students' reasoning in mathematics textbook task solving. *International Journal of Mathematics Education in Science and Technology*, 46(4), 533 – 552.

- Sigley, R., & Wilkinson, L. C. (2015). Ariel's cycles of algebraic problem solving: An adolescent acquires the mathematics register. *Journal of Mathematical Behavior*, 40, 75 – 87.
- Skinner, B. F. (1966). An operant analysis of problem solving. In B. Kleinmetz (Ed.), *Problem solving: Research, method, and theory* (pp. 225-257). New York: Wiley.
- Slavin, R. E. (2011). *Psikologi Pendidikan. Teori dan Praktik*. Jakarta: Indeks.
- Steinbring, H. (2005). *The construction of new mathematical knowledge in classroom interaction an epistemological perspective*. New York : Springer.
- Stevens, J.P. (2009). *Applied multivariate statistics for the social sciences (5th ed)*. New York: RoutledgeTaylor & Francis Group.
- Stohlmann, M. S., & Albarracín, L. (2016). What is known about elementary grades mathematical modelling. *Education Research International*, 1-9.
- Sumpter, L. (2013). Themes and interplay beliefs in mathematical reasoning. *International Journal of Science and Mathematics*, 11(5), 1115 – 1135.
- Tonéis, C. N. (2017). The act of playing and the logical and mathematical reasoning in digital games: The Mathematical Experience in the Digital Games. *Entertainment Computing*, 18(October), 93–102.
- UNICEF UK. *The Right to Education*. Retrieved from <https://www.unicef.org.uk/rights-respecting-schools/the-right-to-education/>
- Vallori, A.B. (2014). Meaningful learning in practice. *Journal of Education and Human Development*, 3(4), 199-209.
- Vidic, N.S. (2014). Model Eliciting Activities motivated problem solving process: solution path analysis. *121st ASEE Annual Conference & Exposition*. Indianapolis, June 15-18.
- Weiss, I., Minsker, K. I., & Kramarski, B. (2010). How can self- regulated learning (SRL) support p roblem solving of third-grade students with mathematics anxiety? *ZDM - The International Journal on Mathematics Education*, 42(2), 179-193.
- Widoyoko, E. P. (2009). *Evaluasi program pembelajaran: Panduan praktis bagi pendidik dan calon pendidik*. Yogyakarta : Pustaka Pelajar.
- Wijayanti, P.S. (2013). *Pengaruh Pembelajaran Matematika dengan Model- Eliciting Activities terhadap Kemampuan Pemecahan Masalah*,

Komunikasi Matematis dan Kepercayaan Diri Siswa. Tesis : Universitas Negeri Yogyakarta.

Wilkinson, L. C., Bailey, A. L., & Maher, C. A. (2018). Students' mathematical reasoning, communication, and language representations: A video-narrative analysis. *ECNU Review of Education*, 1(3), 1–22.

Woolfolk, A. (2007) *Education psychology (10th ed)*. Boston, MA: Pearson Educational, Inc.

Yee, L. P. (2008). *Teaching secondary school mathematics: A resources book (2nd ed)*. Singapore: McGraw-Hill Education.

Yildirim, T.P. (2010). *Understanding the modeling skill shift in engineering: the impact of self-efficacy, epistemology, and metacognition*. Disertasi : University of Pittsburgh.

Yildirim, T. B., Shuman, L., & Basterfield-Sacre, M. (2010). Model-Eliciting Activities: Assessing Engineering Student Problem Solving Skill Integration Processes. *International Journal of Engineering Education*, 26(4), 831-845.

Yoshimura, N., & Yanagimoto, A. (2013). Mathematical modelling of a social problem: Pension tax issues. In G.A. Stillman et al. (Eds.), *Teaching Mathematical Modelling: Connecting to Research and Practice* (pp. 241 – 251). Dordrecht: Springer Science+Business Media.

Yu, S., & Chang, C. (2009). What did Taiwan mathematics teachers think of model-eliciting activities and modeling? *International Conference on the Teaching of Mathematical Modeling and Applications*, ICTMA-14. Hamburg: University of Hamburg.

Zimmerman, B.J. (2000). Self-Efficacy: An essential motive to learn. *Contemporary Educational Psychology* 25, 82–91.