

DAFTAR PUSTAKA

- Akinoglu, O dan Ozkardes, R.T. (2007). The Effects of Problem-Based Active Learning in Science on Student's Academic Achievement, Attitude and Concept Learning. *Eurasia Journal of Mathematics, Science & Technology Education*. 3(1), 71-81.
- Anderson dan Krathwohl. (2001). *A Taxonomy for Learning, Teaching, and Assessing (A Revision of Bloom's Taxonomy of Educational Objectives)*. New York: David McKay Company.
- Anderson, D. dan Nashon, S. (2006). Predators of Knowledge Construction: Interpreting Students' Metacognition in an Amusement Park Physics Program. *Wiley InterScience*. Tersedia: <http://www.interscience.wiley.co.id>.
- Arikunto, S., (2010). *Prosedur Penelitian: Suatu Pendekatan Praktek*. Edisi Revisi. Jakarta : Rineka Cipta.
- Arikunto. (2006). *Dasar-dasar Evaluasi Pendidikan*. Jakarta: PT Bumi Aksara.
- Atan, A. dan Ismail, S. (2011). Aplikasi Pendekatan Penyelesaian Masalah Dalam pengajaran Mata Pelajaran Teknikal dan Vokasional di Fakultas Pendidikan UTM. *Journal of Educational Psychology and Counseling*. 2, 113-144.
- Bodner, G.M and Domin, D.S. (2000). Mental Models: The Role of Representations in Problem Solving in Chemistry. *Proceedings*. West Lafayette: Department of Chemistry- Purdue University.
- Bowen, C. W. and Bodner, G. M. (1991). Problem-Solving Processes Used By Graduate Students While Solving Tasks In Organic Synthesis. *International Journal of Science Education*. 13, 143-158.
- Bransford *et al.* (1998). *The IDEAL Workplace: Strategies for Improving Learning, Problem Solving, and Creativity*. Washington DC: Nashville
- Bransford, J., & Stein, B. (1984). *The ideal problem solver*. New York: W.H. Freeman and Company.
- Brown, A.L. (1987). *Knowing When, Where, and How to Remember: A Problem of Metacognition*. In R. Glaser (Ed). *Advances in Instructional Psychology* (Vol.1) Hillsdale, NJ: Erlbaum.

Naila Faradisa, 2016

PENGUASAAN KONSEP DAN KETERAMPILAN METAKOGNITIF MAHASISWA KIMIA PADA PERKULIAHAN REKAYASA GENETIKA MENGGUNAKAN MODEL PEMECAHAN MASALAH (IDEAL)

Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

- Campbell, Neil A., Mitchell, Lawrence B., & Reece, Jane B. (2003). *Biologi, Edisi Kelima Jilid 3 (Terjemahan)*. Jakarta: Erlangga.
- Cardellini, L. (2006). Fostering creative problem solving in chemistry through group work. *Chemistry Education Research and Practice*, 7 (2), 131-140.
- Cardellini, L. (2000). Ionic Equilibrium Calculations: A Problem Solving Approach. *Chemistry Education: Research And Practice In Europe*, 1 (1), 151-160.
- Dahar, R. W. (2011). *Teori-Teori Belajar*. Jakarta: Erlangga.
- Davenport, J.L. et al. (2008). *Development of Conceptual Understanding and Problem Solving Expertise in Chemistry*. Pittsburgh: Departemen of Chemistry
- Delvecchio, F. (2011). *Student's Use of Metacognitive Skills While Problem Solving in High School Chemistry*. Tesis. Queen's University.
- Desoete, A., Roeyers, H., dan Buysse, A. (2001). Metacognition and Mathematical Problem Solving in Grade 3. *Journal of Learning Disabilities*, 34, (5), 435-449.
- Dimmock, R.J. (2000). Problem Solving Learning: Applications in Medicinal Chemistry. *American Journal of Pharmaceutical Education*. 64.
- Dobos, M. (1999). *Learning biochemistry in peer groups facilitates and enhances student understanding*. Melbourne: HERDSA Annual International Conference.
- Dogru, M. (2008). The Application of Problem Solving Method on Science Teacher Trainees on the Solution of the Environmental Problems. *Journal of Environmental & Science Education*. 3 (1), 9 – 18
- Ersozlu, Z.N., Yildirim, S. (2013). The Relationship Between Students' Metacognitive Awareness and Their Solutions to Similar Types of Mathematical Problems. *Eurasia Journal of Mathematics, Science and Technology Education*. 9(4), 411-415.
- Flavell, J. H. 1979. Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. *American Psychologist*, 34. 906-911.

- Fraenkel, Jack R, Norman E. Wallen, dan Helen H. Hyun. (2007). *How to design and evaluate research in education*. New York: McGrawHill
- Gavanji, Shahin. (2013). Application of Recombinant DNA Technology-A Review. *Applied Science Reports*. 2 (2), 29-31.
- Hake, R. R. (1999) *Analyzing change/ gain scores*. AERA-D-American Educational Research Association's Division, Measurement and Research Methodology: Dept. Of Physics Indiana University.
- Hollingworth, R. & McLoughlin. (2001). Developing science students' metacognitive problem solving skills online. *Australian Journal of Educational Technology*. 17 (1), 50-63.
- Holroyd, C. (1985). What is a problem? What is problem solving? In A. H. Johnstone (Ed.), Problem solving. Is there a problem? *The Royal Society of Chemistry*, 2-7.
- Jacobs, J. E., & Paris, S. G. (1987). Children's Metacognition About Reading: Issues in Definition, Measurement, and Instruction. *Educational Psychologist*. 22(2), 255-278.
- Jordan, J. R. (2011). Teacher Practices and High School Chemistry Students' Metacognitive Skillfulness. Disertasi. Graduate School of Clemson University.
- Karatas, I. And Baki, A. (2013). The Effect of Learning Environments Based on Problem Solving on Students' Achievements of Problem Solving. *International Electronic Journal of Elementary Education*. 5(3), 249-268.
- Kipnis, M. dan Hofstein, A. (2008). The Inquiry Laboratory as a Source for Development of Metacognitive Skills. *International Journal of Science and Mathematics Education*, 6 (3), 601-627.
- Kirley, J. (2003). Principles for Teaching Problem Solving: *Technical Paper #4*. Indiana University: Plato Learning.
- Kuhn, D. dan Dean, D. Jr. (2004). Metakognisi: A Bridge Between Cognitive Psychology and Educational Practice. *Theory Into Practice*, 43, 4.
- Lee, M. and Baylor, A. L. (2006). Designing Metacognitive Maps for Web-Based Learning. *Educational Technology and Society*, 9 (1), 344-348.

- Mashuri. (2008). *Penelitian Verifikatif*, Edisi Pertama. Yogyakarta: Andi.
- Mayer, R. (1983). *Thinking, problem solving, cognition*. New York: W.H. Freeman and Company.
- Meichenbaum, D. (1985). Teaching Thinking: A Cognitive Behavioral Perspective. In S. F., Chipman, J. W. Segal, and R. Glaser (Eds.), *Thinking and Learning Skills, Vol. 2: Research and open questions*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Mulyanti, S. (2014). *Pengaruh Model Perkuliahan Pemecahan Masalah terhadap Penguasaan Konsep Mahasiswa pada Materi Aliran Informasi Genetika*. Bandung: Tesis UPI (tidak diterbitkan).
- Nulhakim, L. (2013). *Analisis Keterampilan Metakognitif Siswa yang Dikembangkan Melalui Pembelajaran Berbasis Masalah Pada Materi Kelarutan dan Hasil Kali Kelarutan*. Bandung: Tesis UPI (tidak diterbitkan).
- Oktaria, E. (2014). *Pembelajaran Problem Solving Tipe Mothes pada Siswa SMA dalam Konteks Penghilangan Noda pada Kain*. Bandung: Tesis UPI (tidak diterbitkan).
- Papaleontiou-Louca, E. (2008). *Metacognition and Theory of Mind*. Newcastle: Cambridge Scholars Publishing.
- Polya, G. (1973). *How to Solve It: A New Aspect of Mathematics Method*. New Jersey: Princeton University Press.
- Rachmiati, D. (2014). *Keterampilan Metakognitif Siswa dalam Menyelesaikan Permasalahan Materi Larutan Penyangga melalui Model Pembelajaran Pemecahan Masalah*. Bandung: Tesis UPI (tidak diterbitkan).
- Rahman, F., *et al.* (2010). Impact of Metacognitive Awareness on Performance of Student in Chemistry. *Contemporary Issues in Education Research*, 3 (10).
- Rickey, D. and Stacy, A. M. (2000). The Role of Metacognition in Learning Chemistry. *Journal of Chemical Education*, 77 (7), 915-920.
- Rotino, G.L., E. Perri, M. Zottini, H. Sommer, and A. Spena. (1997). Genetic Engineering of Parthenocarpic Plants. *Nature Biotech.* 15, 1398- 1401.

- Sahara, L.A. (2008) *Penggunaan Model Pembelajaran Berbasis Masalah untuk Meningkatkan Penguasaan Konsep dan Keterampilan Berpikir Kritis Siswa pada Konsep Kalor*. Bandung: Tesis UPI (tidak diterbitkan).
- Sandi-Urena, G. (2008). *Design and Validation of a Multimethod Assessment of Metacognition and Study of The Effectiveness of Metacognitive Interventions*. Disertasi. Graduate School of Clemson University.
- Sandman, G., Breitenbach, J., Gassel, S. (2014). Genetic Engineering of the Complete Carotenoid Pathway toward Enhanced Astaxanthin Formation in *Xanthophyllomyces Dendrorhous* Starting from a High-Yield Mutant. *Applied Genetics and Molecular Biotechnology*. 98, 345-350.
- Saribas, D., Mugaloglu, E. Z., & Bayram, H. (2013). Creating Metacognitive Awareness in the Lab: Outcomes for Preservice Science Teachers. *Eurasia Journal of Mathematics, Science & Technology Education*. 9(1), 83-88.
- Scanlon, David. (2010). *Metacognitive Processes*. USA: American Institute for Research. [Online]. Tersedia: [https://teal.ed.gov/sites/default/files/Fact-Sheets/4 TEAL Metacognitive.pdf](https://teal.ed.gov/sites/default/files/Fact-Sheets/4%20TEAL%20Metacognitive.pdf) [Diakses pada 2 Maret 2016].
- Schraw, G. and Dennison, R.S. (1994). Assessing Metacognitive Awareness. *Contemporary Educational Psychology*, 19, 460-475.
- Schraw, G., Crippen, K.J., dan Hartley, K. (2006). Promoting Self-Regulation in Science Education: Metacognition as Part of Broader Perspective on Learning. *Research in Science Education*. 36, 111-139.
- Schraw, G. dan Moshman D. (1995). Metacognitive Theories. *Educational Psychology Review*, 7(4), 351-371.
- Schoenfeld, A. (1985). *Mathematical problem solving*. New York: Academic Press.
- Selcuk, G., Caliskan, S. dan Ero, M.(2008). The Effects of Problem Solving Instruction on Physics Achievement, Problem Solving Performance and Strategy Use *.Lat. Am. J. Phys. Educ*, 2, 3.
- Shivanand, P. dan Noopur, S. (2010). Recombinant DNA Technology and Genetic Engineering: A Safe and Effective Meaning for Production Valuable Biologicals. *International Journal of Pharmaceutical Sciences Review and Research*. 1(1), 14-20.

- Slavin, R. E. (1995). *Cooperative learning: Theory, Research, and Practice* (2nd ed.). Massachussets: Allyn and Bacon Publishers.
- Sofyan, Ahmad dkk. (2006). *Evaluasi Pembelajaran IPA Berbasis Kompetensi*. Jakarta: UIN Jakarta Press.
- Stel, M. dan Veenman, V. J. (2008). Relation between intellectual ability and metacognitive skillfulness as predictors of learning performance of young students performing tasks in different domains. *Elsevier: Learning and Individual Differences*, 18 (1), 128-134.
- Sudjimat, D.A. (1996). Pembelajaran Pemecahan Masalah: Tinjauan Singkat Berdasar Teori Kognitif. *Jurnal Pendidikan Humaniora dan Sains*. Malang: IKIP Malang.
- Sugiyono, (2012). *Memahami Penelitian Kualitatif*. Bandung: Alfabeta.
- Sugiyono. (2013). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung: Alfabeta.
- Sugiyono. (2013). *Statistika untuk Penelitian*. Bandung: Alfabeta.
- Susiana, Eny. (2012). *IDEAL Problem Solving dalam Pembelajaran Matematika*. Tesis. Semarang: Universitas Semarang. Tidak diterbitkan.
- Takeshi, F, *et al.* (2005). *New Challenge of Information Science Education Based on PBL Using Squeak eToy: ISEC-SeT*. ED-MEDIA: Kyoto University Japan.
- Tamalene, Hasita. (2010). *Pembelajaran Matematika dengan Model CORE melalui Pendekatan Keterampilan Metakognitif untuk Meningkatkan Kemampuan Penalaran Matematis Siswa Sekolah Menengah Pertama*. Tesis UPI Bandung: tidak diterbitkan.
- Usman, Husaini. (2006). *Manajemen Teori, Praktek dan Riset pendidikan*. Jakarta: Bumi Aksara
- Vajo, Z., Fawcett, J., Duckworth, W. C. (2001). Recombinant DNA Technology in the Treatment of Diabetes: Insulin Analogs. *The Endocrine Society: Endocrine Reviews*. 22(5), 706-717.

- Van de Walle, J. (2007). *Elementary and Middle School Mathematics: Teaching Developmentally (6th ed.)*. USA: Pearson International, Allyn and Bacon.
- Veenman, et al. (2006). *Metacognition and Learning: Conceptual and Methodological Considerations*. Metacognition Learning. 1: 3-14.
- Veenman, M. V. J. dan Spaans, M. A. (2005). Relation between intellectual and metacognitive skills: Age and task differences. *Elsevier: Learning and Individual Differences*, 15 (2), 159-176.
- Veenman, M. V. J., Wilhelm, P. dan Beishuizen, J. J. (2004). Intellectual and metacognitive skills of novices while studying texts under condition of text difficulty and time constraint. *Elsevier: Learning and Instruction*, 14 (6), 621-640.
- Veenman, M. V. J., Wilhelm, P. dan Beishuizen, J. J. (2004). Intellectual and metacognitive skills of novices while studying texts under condition of text difficulty and time constraint. *Elsevier: Learning and Instruction*, 14 (6), 621-640.
- White, R.T. & Mitchell, I.J. (1994). Metacognition and The Quality of Learning. *Studies in Science Education*, 23, 21-37.
- Wiersma, W and Jurs Stephen G. (2009). *Research method in education*. Boston: Pearson Education, Inc.