

DAFTAR PUSTAKA

- Abrahams, I. & M. Saglam. (2010). A Study of Teachers' Views on Practical Work in Secondary Schools in England and Wales. *International Journal of Science Education*. 32(6). 753-768.
- Abrahams, I. & M. J. Reiss. (2012). Practical work: Its Effectiveness in Primary and Secondary School in England. *Journal of Research in Science Teaching*. 49(2). 1035-1055.
- Abrahams, I. & M. J. Reiss. (2013). The assessment of practical work in school science. *Journal of Science Education*. 49(2). 209-251.
- Ainsworth, S. E., Prain, V. & Tytler, R. (2011). Drawing to learn in science. University of Nottingham repository. ISSN 0036-8075.
- Anderson, L., W. & Krathwohl, D. R. (2010). *Kerangka Landasan untuk Pembelajaran, Pengajaran, dan Assesmen. Revisi Taksonomi Bloom*. Yogyakarta: Pustaka Pelajar.
- Arikunto, S. (2010). *Prosedur Penelitian, Satuan Pendekatan dan Praktek*. Jakarta: Rineka Cipta.
- Bell, A., D. (1991). *Plant Form: An Illustrated Guide to Flowering Plant Morphology*. Oxford: Oxford University Press.
- Bergey, W., Cromley, G. & Newcombe, N. (2015). Teaching High School Biology Students to Coordinate Text and Diagrams: Relations with Transfer, Effort, and Spatial Skill. *International Journal of Science Education*, 37(15), 2476-2502.
- Brunken, R., Seufert, T. & Paas, F., (2010). *Measuring Cognitive Load*. Cambridge University Press: New York.
- Brunswik, E. (1956). *Perception and the representative design of psychological experiments*. Berkeley, CA: University of California Press.
- Chen, O. (2018). *A New Perspective of Cognitive Load Theory: Working Memory Resource Depletion*. Nanyang Tecnological University.
- Chun, M., M. & Jiang, Y. (1998). Contextual Cueing: Implicit Learning And Memory Of Visual Context Guides Spatial Attention. *Cogn Psychol* 36, 28–71.
- Clark, J., M. & Paivio, A. (1991). Dual Coding Theory and Education. *Educational Psychology Review*, Vol. 3, No. 3.

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ANALISIS KEMAMPUAN MAHASISWA DALAM MEREPRESENTASIKAN OBJEK MAKROSKOPIK DAN HUBUNGANNYA DENGAN BEBAN KOGNITIF PADA PRAKTIKUM MORFOLOGI TUMBUHAN

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- De jong, T. (2010). Cognitive Load Theory, educational research, and instructional design: some food for thought. *Isdtr Sci* 38, 105-134.
- Dikmenli, M. (2010). Misconceptions of cell division held by student teachers in biology: a drawing analysis. *Sci Res Essay* 5, 235–247.
- Goldin, A. (2002). Representation in Mathematical Learning and Problem Solving. Dalam English, L. D (Ed) Handbook of International Research in Mathematics Education (pp: 197-218). Mahwah, New Jersey: Lawrence Erlbaum Associated, Inc.
- Guida, A. & Lavielle-Guida, M. (2014). 2011 Spay Odyssey: Spatialization As A Mechanism To Code Order Allows A Close Encounter Between Memory Expertise And Classic Immediate Memory Studies. *Front Psych* 5, 1–5.
- Hasan, M., I. (2002). *Pokok-pokok Materi Statistik 1 (Statistik Deskriptif)*. Jakarta: Bumi Aksara.
- Haslam, C. Y. & Hamilton, R. J. (2010) Investigating the use of integrated instructions to reduce the cognitive load associated with doing practical work. *International Journal of Science Education*, 32(13), 1715-1737.
- Hindriana, A. F. (2014). *Pembelajaran Fisiologi Tumbuhan Terintegrasi Struktur Tumbuhan Berbasis Kerangka Instruksional Marzano untuk Menurunkan Beban Kognitif Mahasiswa*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia.
- Ishikawa, T. & Kastens, K. A. (2005). Why some students have trouble with maps and other spatial representations. *Journal of Geoscience Education*, 53 (2), 184-197.
- Jalmo, T. & Suwandi, T. (2018). Biology Education Students' Mental Models On Genetic Concepts. *Journal of Baltic Science Education*, 17 (3), 2538–7138.
- Kalyuga, S. (2011). Informing: A Cognitive Load Perspective. *The International Journal of an Emerging Transdiscipline*. Vol. 14.
- Knapp, P. & Watkins, M. (2005). *Genre Text, Grammar, Technology for Teaching and Assesing Writing*. Sydney: University of New South Wales Press.
- Kose, S. (2008). Diagnosing student misconceptions: using drawings as a research method. *World Appl Sci J* 3, 283–293.
- Kragten, M., Admiraal, W. & Rijlaarsdam, G. (2015). Students' Ability to Solve Process-Diagram Problems in Secondary Biology Education. *Journal of Biological Education*, 49(1), 91–103.

- Lagowski, J.J. (2002). *The role of the laboratory in chemical education*. [Online] Diakses dari <http://ww.utexas.edu/research>.
- Leutner, D., Leopold, C. & Sumfleth, E. (2009). Cognitive Load and Science Text Comprehension: Effects of Drawing and Mentally Imagining Text Content. *Elsevier Ltd*. DOI: 10.1016/j.chb.2008.12.010.
- Marzano, R. J., Pickering & Mc, Righe. (1993). *Assessing Student Outcomes. Performance Assesment Using the dimension of Learning Model*. ASCD: USA.
- Mayer, R. E. & Moreno, R. (2010). *Cognitive Load Theory: Techniques That Increase Generative Processing in Multimedia Learning: Open Questions for Cognitive Load Research*. United State of America: Cambridge University Press.
- Mayer, R. E. (2009). *Multi Media Learning prinsip-prinsip dan software*. Yogyakarta: Pustaka Pelajar.
- McCrimmon & James, M. (1984). *Writing With A Purpose*. Boston: Houghton Mifflin Company.
- Millar, R. & Abraham, I. (2008). Does Practical Work Reallity Work ? A Study of The Effectiveness of Practical Work As A Teaching and Learning Method in School Science. *Science Education Journal*. 73 (1) 45-58.
- Moreno, R. & Park, B. (2010). Cognitive Load Theory: Historical Development to Other Theories, in Plaas JL *et al.* (ed), *Cognitive Load Theory*, Cambride University Press.
- Moreno, R. & Valdez, A. (2005). Cognitive Load and Learning Effects Of Having Students Organize Pictures and Words in Multimedia Environments: The Role Of Student Interactivity and Feedback. *Educational Technology Research and Development*. DOI: 10.1007/BF02504796. Vol. 53, No. 3
- Paas, F., Tuovinen, J. E., Tabbers, H. & Gerven, P. M. M. V. (2003). Cognitive Load Measurement as a Means to Advance Cognitive Load Theory. *Educational Psychologist*. 28, (1), 63-71.
- Paivio, A. & Csapo, K. (1973). Picture Superiority in Free Recall: Imagery or Dual Coding?. *Cognitive Psychology*. 5, 176-206.
- Paivio, A. (2006). *Dual Coding Theory and Education*. Draft chapter for the conference on “Pathways to Literacy Achievement for High Poverty Children,” The University of Michigan School of Education.
- Plass, R. M. & R. Brunken. (2010). *Cognitive Load Theory*. New York: Cambridge University Press.

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- Puma, S., Matton, N., Paubel, P. V. & Tricot, A. (2018). Cognitive Load Theory and Time Considerations: Using the Time-Based Resource Sharing Model. *Springer*. DOI.ORG/10.1007/s10648-018-9438-6
- Purwanto, M. N. (2012). *Prinsip-Prinsip Evaluasi Pengajaran*. Jakarta: Remaja Rosdakarya.
- Quillin, K. & Thomas, S. (2015). Drawing-to-learn: A Framework for Using Drawings to Promote Mode-Based Reasoning in Biology. *CBE-life Sciences Education*. Vol.14, 1-16, Spring.
- Rahadi, A. (2003). *Media pembelajaran*. Jakarta: Dirjen Dikti Depdiknas.
- Rahmat, A. & Hindriana, A., F. (2014). Beban Kognitif Mahasiswa dalam Pembelajaran Fungsi Terintegrasi Struktur Tumbuhan Berbasis Dimensi Belajar. *Jurnal Ilmu Pendidikan*, Jilid 20, Nomor 1: 66-74.
- Rahmat, A. & Soesilawati, S. A. (2014). Menurunkan Beban Kognitif Siswa SMA Pada Pembelajaran Biologi Terhubung Menggunakan Kerangka Instruksional Berbasis Dimensi Belajar untuk Meningkatkan Kemampuan Berfikir Interdisiplin. *Laporan Penelitian Penguatan Kompetensi*. Universitas Pendidikan Indonesia.
- Rahmat, A., Soesilawati, S. A. & Nuraeni, E. (2015). Pengendalian Beban Kognitif dalam Pembelajaran Biologi untuk Melatih Keterampilan Berfikir Siswa SMA. *Laporan Penelitian Penguatan Kompetensi*. Universitas Pendidikan Indonesia.
- Reid, D. J. (2010 a). The Role of Pictures in Learning Biology: Part 1, Perception and Observation. *Journal of Biology Education*. 24 (3), 161-172.
- Reid, D. J. (2010 b). The Role of Pictures in Learning Biology: Part 2, Picture-text Processing. *Journal of Biology Education*. 24 (4), 251-258.
- Rosengrant, D. (2007). Multiple Representations And Free-Body Diagrams: Do Students Benefit From Using Them?. *Dissertation state University of Jersey*.
- Rouse, W. B. & Morris, N. M. (1986). On looking into the black box: Prospects and limits in the search for mental models, *Psychological Bulletin*, 100 (3), 349-363.
- Rustaman N. (2005). *Strategi Belajar Mengajar Biologi*. Malang: Universitas Negeri Malang.
- Sadiman, A. (2003). *Media Pendidikan: Pengertian, Pengembangan dan Pemanfaatannya*. Jakarta: Raja Grafindo Persada.

- Scharfenberg, F. J. & Bogner, F.X. (2011) Teaching gene technology in an outreach lab: Students' assigned cognitive load clusters and the clusters' relationships to learner characteristics, laboratory variables, and cognitive achievement. *Research in Science Education*, 43(1), 14161.
- Schnotz, W. & Kurschner, C. (2007). A reconsideration of cognitive load theory. *Journal of Educational Psychology*, 19, hlm. 469-508.
- Simpson, M.G. (2006). *Plant Systematics*. USA: Elsevier Academic Press.
- Slavin. (2009). *Psikologi Pendidikan: Teori dan Praktek, edisi 9*. Terjemahan Marianto Samosir. (2011). Jakarta: Indeks.
- Sugiyono. (2007). *Statistik untuk Penelitian*. Bandung: Alfabeta.
- Supriatno, B. (2013). *Pengembangan Program Perkuliahan Pengembangan Praktikum Biologi Sekolah Berbasis ANCORB Untuk Mengembangkan Kemampuan Merancang Dan Mengembangkan Desain Kegiatan Laboratorium*. (Disertasi). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.
- Sweller, J. (1988). Cognitive Load During Problem Solving: Effects on Learning. *Journal of Cognitive Science*. 12,257-258.
- Sweller, J. (2005). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *Cambridge handbook or multimedia learning* (pp. 19-30). New York: Cambridge University Press.
- Sweller, J. (2010). Cognitive Load Theory: Recent Theoretical Advances, in Paas J. L., Moreno, R., & Brunken, R. (eds), *Cognitive Load Theory* (p. 29-47). Cambridge: Cambridge University Press.
- Tiberghien, A., Veillard, L., Le Marechal, J., F., Buty, C. & Miller. R. (2001). An Analysis of Labwork Task Used in Science Teaching at Upper Secondary School and University Levels in Several European Countries. *Science Education Journal*. 85, 483-508.
- Van, M. P. & Garner, J. (2005). The Promise And Practice Of Learner-Generated Drawing: Literature Review and Synthesis. *Educational Psychology Review*, 17, 285–325.
- Zumeri, S. (2016). *Analisis Hubungan Motivasi Belajar dengan Aktivitas Belajar dan Dampaknya terhadap Keterampilan Problem Solving Mahasiswa pada Perkuliahan Morfologi Tumbuhan*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.