

DAFTAR PUSTAKA

- Alters, B.J. & Nelson, C.E. (2002). *Perspective: teaching evolution in higher education. Evolution*, 56, pp. 1891–1901.
- Alparslan, C., Tekkaya, C., & Geban, O. (2003). Using the conceptual change instruction to improve learning. *Journal of Biological Education (Society of Biology)*, 37 (3), pp.133.
- American Association for the Advancement of Science (1993). *Benchmarks for Science Literacy*. New York: Oxford University Press.
- Anderson, C.W., Sheldon, T.H., & Dubay, J. (1990). The effects of instruction on collage non-majors' concepts of respiration and photosynthesis. *J. Res. Sci. Teach.*, 27 (8): 761 - 776.
- Anderson, L.W., & Krathwohl, D.R. (2001). *A Taxonomy for Learning, Teaching, and Assesing : A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.
- Andressa, H., Mavrikaki, E., & Dermitzaki, I. (2015). Adaptation of the Students' Motivation towards Biology Learning Questionnaire to Measure Greek Students' Motivation towards Biology Learning. *International Journal of Biology Education*, 4 (2), pp. 78-93.
- Andrews, T.M., Price, R.M., Mead, L.S., McElhinny, T.L., Thanukos, A., Perez, K.E., Herreid, C.F., Terry, D.R., Lemons, P.P. (2012). Biology Undergraduates' Motivations about Genetic Drift. *Life Science Education*, 11, pp. 248-259.
- Atkinson, J.W. & Birch, D. (1978). *An Introduction to Motivation* (2nd edition.). New York: Van Nostrand.
- Ayala, F.J., & King, J.A. (1984). *Model of Genetics*. Menlo Prk California : The Benjamin/cummings Publishing Company, Inc
- Baldwin, J.A., Ebert-May, D., & Burns, D. J. (1999). The development of a college biology self-efficacy instrument for nonmajors. *Science Education*, 83(4), 397-408.
- Bandura, A. (1986). *Social foundations of Thought and Action: A social cognitive theory*. Englewood Cliffs, NJ:Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (2001). Social cognitive theory: An agentive perspective. *Annual Review of Psychology*, 52, pp. 1 – 26.

- Bandura, A. (2005). The primacy of self-regulation in health promotion. *Applied Psychology: An International Review*, 54, pp. 245 – 254.
- Barnett, M., Wagner, H., Gatling, A., Anderson, J., Houle, M., & Kafka, A. (2006). The impact of science fiction film on student understanding of science. *Journal of Science Education & Technology*, 15 (2), pp.179-191. DOI: 10.1007/s10956-006-9001-y.
- Bonwell, C.C. & Eison, J. (1991). *Active Learning: Creating Excitement in the Classroom*. George Washington University, Washington DC: ASHEERIC Higher Education Report No.1
- Brookhart, S.M. (2010). *How to Assess Higher-Order Thinking Skills in Your Classroom*. Alexandria, Virginia USA: ASCD.
- Brophy, J. (1998). *Motivating students to learn*. Madison, WI: McGraw Hill.
- Bryan, R.R., Glynn, S.M., & Kittleson, J.M. (2011). Motivation, Achievement, and Advanced Placement Intent of High Students Learning Biology. *Wiley Online Library*: DOI 10.1002/sce.20462.
- Campbell, N. A., Reece, J. B., Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P.V., & Jackson, R. B. (2010). *Biologi*. Edisi kedelapan. Jilid satu dan dua. Jakarta: Penerbit Erlangga.
- Cavallo, A. M. L. (1996). Meaningful learning, reasoning ability and students' understanding and problem solving of topics in genetics. *Journal of Research in Science Teaching*, 33 (6), pp. 625-656.
- Cavaş, P. (2011). Factors affecting the motivation of Turkish primary students for Science learning. *Science Education International*, 22 (1), pp. 31-42.
- Chiappetta, E.L & Fillman, D.A. (1998). Clarifying the place of essential topics and unifying principles in high school biology. *Sch. Sci. Maths.*, 9 (10), pp. 12-18.
- Çimer A (2004). A study of Turkish biology teachers' and students' views of effective teaching in schools and teacher education. EdD Dissertation, The University of Nottingham, Nottingham, U.K.
- Çimer, A. (2012). What makes biology learning difficult and effective: Students' views. *Educational Research and Review*, 7 (3), pp. 61-71.
- Coley, J.D. & Tanner, K.D. (2012). Common origins of diverse misconceptions: cognitive principles and the development of biological thinking. *CBE Life Sci Educ*, 11, pp. 1–7.

- Coley, J.D. & Tanner, K.D. (2015). Relation between Intuitive Biological Thinking and Biological Misconceptions in Biology Majors and Nonmajors. *CBE Life Sci Educ*, 14, pp. 1–19.
- Dahar, R.W. (1996). *Teori-teori Belajar*. Jakarta: Erlangga.
- Dawson, C. (2000). Upper primary boys' and girls' interests in Science: have they changed since 1980? *International Journal of Science Education*, 22 (6), pp. 557-570.
- Deci, E. & Ryan, R. (1991). A motivational approach to self: Integration in personality. In R.Dienstbier (Ed.) *Nebraska Symposium on Motivation, Volume 38, Perspectives on Motivation* (pp. 237–288). Lincoln, NE: University of Nebraska Press.
- Diana, S., Rachmatulloh, A., & Rahmawati, E.S. (2015). Profil Kemampuan Literasi Sains Siswa SMA Berdasarkan Instrumen *Scientific Literacy Assesments* (SLA). Makalah disajikan pada *Seminar Nasional XII Pendidikan Biologi*, 2015, FKIP UNS, Surakarta.
- Dikmenli, M., Çardak, O., & Öztaş, F. (2009). Conceptual problems in biology-related topics in primary science and technology textbooks in Turkey. *International Journal of Environmental & Science Education*, 4 (4), pp. 429-440.
- Fraenkel, J. R. & Wallen, N. E. (2006). *How to Design and Evaluate Research in Education*. Singapore: Mc-Grow Hill.
- Fraser, B.J. (1998). Classroom environment instruments: Development, validity and applications. *Learn. Environ. Res.*, 1:7-33.
- Galvin, E., Simmie, G.M., & Grady, A.O. (2015). Identification of Misconceptions in the Teaching of Biology: A Pedagogical Cycle of Recognition, Reduction and Removal. *Higher Education of Social Biology*, 8 (2), pp. 1-8.
- Garnett, P.J., Tobin, K., & Swingler, D.G. 1985. *Reasoning abilities of Western Australian secondary school students and implications for the teaching of science*.
- Glynn, S.M., Brickman, P., Armstrong, N., & Taasoobshirazi, G. (2011). Biology Motivation Questionnaire II: Validation with Biology Majors and NonBiology Majors. *Journal of Research in Biology Teaching*, 48 (10), pp. 1159-1176.
- Gooding, J., & Metz, B. (2011). From misconceptions to conceptual change: Tips for identifying and overcoming students' misconceptions. *Science Teacher Journal*, 78 (4), pp. 34-37.

- Haki, P. & Eryilmaz, A. (2010). Development of Three tier test to Asses Misconception about simple electric circuit. *The journal of education research*, 217.
- Haladyna, T. M. (1997). *Writing Test Items to Evaluate Higher Order Thinking*. Boston: Allyn and Bacon.
- Hanrahan, M. (1998). The effect of learning environment factors on students' motivation and learning. *International Journal of Science Education*, 20 (6), 737–757.
- Hasan, S. Bagoyoko, D. & Kelley, E.L. (1999). Misconceptions and The Certainly of Response Index (CRI). *Phys. Educ*, 34 (5), pp. 294-299.
- Hidayat, T. & Prastiwi, M.S. (2014). Profil Modul Evolusi untuk Melatih Berpikir Kritis Siswa SMA Kelas XII. *Jurnal BioEdu*, 3 (1), pp. 315-318
- Huang, S.Y. & Waxman, H.C. (1995). Motivation and learning environment differences between Asian-American and white middle school students in mathematics. *Journal of Research and Development in Education*, 28(4), 208–219.
- Kaltakci, D. & Didis, N. (2007). *Identification of Pre-Service Physics Teachers' Misconception on Gravity Concept: A Study with a 3-Tier Misconception Test*. Sixth International Conference of the Balkan Physical Union: American Institute of Physics.
- Keeves, J. & Kotte, D. (1992). Disparities between the sexes in Science Education 1970-1984. In J. Keeves (ed.), *The IEA Study of Science III: Changes in Science Education and Achievement 1970-1984*, (pp. 141-164). Elmsford, NY: Pergamon.
- Kuswana, W. S. (2011). *Taksonomi Berpikir*. Bandung: Remaja Rosdakarya.
- Lawson, A.E. & Thompson, L.D. (1988). Formal reasoning ability and misconceptions concerning genetics and natural selection. *Journal of Research in Science Teaching*, 25, 733–746.
- Lazarowitz, R. & Penso, S. (1992). High school students' difficulties in learning biology concepts. *J.Biol. Educ.*, 26 (3): 215-224.
- Lee, O. & Brophy, J. (1996). Motivational patterns observed in sixth-grade science classrooms. *Journal of Research in Science Teaching*, 33 (3), pp. 585–610.
- Lunetta V.N., (1998), The school science laboratory: historical perspectives and centers for contemporary teaching, . In P. Fensham (Ed.). *Developments and dilemmas in science education* (pp 169-188), London, Falmer Press.

- Margolis, H. & McCabe, P. P. (2006). Improving self efficacy and motivation: What to do, what to say. *Intervention in School and Clinic*, 41 (4), pp. 218-227.
- Marzano, R.J, *et al.* (1988). *Dimensions of Thinking: A frame work for curriculum and instruction*. Alexandria, Virginia USA: Association for Supervision and Curriculum Development.
- Marzano, R.J., *et.al.* (1994). *Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model*. Pittsburgh: ASCD.
- Mavrikaki, E., Koumparou, H., Kyriakoudi, M., Papacharalampous, I., & Trimandili, M., (2012). Greek secondary school students' views about biology. *International Journal of Environmental and Science Education*, 7 (2), pp. 217-232.
- McKeachie, W. (1972). Research on College Teaching. *Educational Perspectives*, 11 (2), pp. 3 – 10.
- Meyer, C. (1986). *Teaching Students Think Critically*. London: Jossey-Bass Publishers.
- Mintzes, J., Wandersee, J.H., & Novak, J.D. (1998). *Teaching for understanding — A human constructivist view*. San Diego, CA: Academic Press.
- Modell, H., Michael, J., & Wenderoth, MP. (2005). Helping the learner to learn: the role of uncovering misconceptions. *American Biology Teacher*, 67, pp. 20–26.
- Murni, D. (2013). Identifikasi Miskonsepsi Mahasiswa pada Konsep Substansi Genetika Menggunakan *Certainty of Response Index* (CRI). Makalah disajikan pada SEMIRATA, 2013, FMIPA UNILA, Lampung.
- National Research Council (1996). *National Science Education Standards*. Washington, DC: National Academy Press.
- Nusantari, E. (2014). Genetics Misconception oh High School Textbook, The Impact, and Importance on Presenting the Order of Concept through Reorganization of Genetics. *Journal of Education and Practice*, 5 (36), pp. 20-28
- Osborne, J. & Collins, S. (2001). Pupils' views of the role and value of the science curriculum. *International Journal of Science Education*, 23 (5), pp. 441-467.
- Osman, M.E. & Hannafin, J.M. (1994). Effect of Advance Questioning and Prior Knowledge on Science Learning. *Journal of Educational Research*, 88 (1): pp. 5

- Özcan, N. (2003). A Group of Students' and Teachers' Perceptions with Respect to Biology Education at High School Level, MA Dissertation, Middle East Technical University, Ankara, Turke
- Pajares, F. (2001). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66, pp. 543-578.
- Palmer, D. (2005). A Motivational View of Constructivist-informed Teaching. *International Journal of Science Education*, 27 (15), pp. 1853-1881.
- Patrick, A. O., Kpangban, E. & Chibueze, O. O. (2007). Motivation effects on test scores of senior secondary school science students. *Studies on Home and Community Science*, 1 (1), pp. 57-64.
- Piaget, J. & Inhelder, B. (1958). *The Growth of Logical Thinking from Childhood to Adolescence*. New York: Basic Books, Inc. Publishers.
- Pierce, B. A. (2012). *Genetics (Fourth Edition): A Conceptual Approach*. New York: W.H Freeman and company
- Pintrich, P.R., Marx, R.W., & Boyle, R.A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational Research*, 63 (2), pp. 167-199.
- Pintrich, P.R. & Schunk, D.H. (1996). *Motivation in education: Theory, research and applications* (2nd edition.). Englewood Cliffs, NJ: Merrill Company.
- Prokop, P., Tuncer, G., & Chudá, J. (2007). Slovakian Students' Attitudes toward Biology. *Eurasia Journal of Mathematics, Science & Technology Education*, 3 (4), pp. 287-295.
- Rahayu, E.S. (2010). Penggunaan Tes Open Book, Close-Open Book, dan Close Book untuk Mengukur Kemampuan Berpikir Tingkat Tinggi pada Siswa Kelas XII Konsep Hereditas, Mutasi, dan Evolusi (Tesis, Universitas Pendidikan Indonesia, 2010, Tidak diterbitkan).
- Roini, C. (2013). Organisasi Konsep Genetika pada Buku Biologi SMA Kelas XII. *Jurnal EduBio Tropika*, 1 (1), pp. 1-60
- Santrock, J.W. (2010). *Psikologi Pendidikan*. Jakarta : Kencana Prenada Media Group.
- Santyana, I.W. (2004). *Model Problem Solving dan Reasoning Sebagai alternatif Pembelajaran Inovatif* (Makalah). Disajikan dalam Konvensi Nasional Pendidikan Indonesia V. IKIP Negeri Singaraja.

- Sevinç, B., Özmen, H., & Yiğit, N. (2011). Investigation of primary students' motivation levels towards science learning. *Science Education International*, 3, pp. 218-232.
- Settlage, J. (1994). Conceptions of natural selection: a snapshot of the sense-making process. *Journal of Research in Science Teaching*, 31, pp. 449–457.
- Shaw, K. R. M., Horne, K.V., Zhang, H., Boughman, J. (2008). Essay Contest Reveals Misconceptions of High School Students in Genetics Content. *Genetics*, 178 (3), pp. 1157–1168.
- Shihusa, H., & Keraro, F.N. (2009). Using Advance Organizers to Enhance Students' Motivation in Learning Biology. *Eurasia Journal of Mathematics, Science & Technology Education*, 5 (4), pp. 413-42.
- Stewart, C., Bachman, C., & Johnson, R. (2010). Students' characteristics and motivation orientations for online and traditional degree programs. *Journal of Online Learning and Teaching*, 6 (2), pp. 367-379.
- Stiggins, R. J. (1994). *Student-Centered Classroom Assesment*. New York: Merrill-Mac Milan College Publishing Company.
- Suherman, D.P. (2015). Analisis Hubungan *Self-Efficacy* dan Metakognitif terhadap Hasil Belajar Siswa SMA Berdasarkan Gender pada Konsep Genetika (Skripsi, Universitas Pendidikan Indonesia, 2015, Tidak diterbitkan).
- Svandova, K. (2014). Secondary School Students' Misconceptions about Photosynthesis and Plant Respiration: Preliminary Results. *Eurasia Journal of Mathematics, Biology & Technology Education*, 10 (1), pp. 59-67.
- Tekkaya, C., Özkan, Ö., & Sungur, S. (2001). Biology concepts perceived as difficult by Turkish high school students. *Hacettepe Univ. J. Educ.*, 21: 145-150.
- Tobin, K.G. & Capie, W. (1981). Development and validation of a group test of logical thinking. *Educational and Psychological Measurement*, 41, pp. 413-424.
- Trifone, J.D. (1987). The Test of Logical Thinking : Aplication for Teaching and Placing Science Students. *The American Biology Teacher*, 49 (8), pp. 411-416
- Tuan, H.L., Chin, C.C., & Shieh, S.H. (2005). The development of a questionnaire to measure students' motivation towards Biology learning. *International Journal of Biology Education*, 6, pp. 639-654.

- Tumeri & Pangaribuan. (2009). *Peningkatan Kemampuan Penalaran Logis Siswa dengan Menggunakan Media Interaktif di SMP NEGERI 255 Jakarta*. Seminar Nasional Aplikasi Teknologi Informasi: Yogyakarta.
- Venville, G & Treagust, D.F. (2002). *Teaching about the Gene in the Genetic Information Age*. *Australian Science Teachers' Journal*, 48 (2), pp. 20-24.
- Von Glasersfeld, E. (1998). Cognition, construction of knowledge and teaching. In M.R. Matthews (Ed.) *Constructivism in Science Education*, pp. 11–30. Dordrecht: Kluwer Academic.
- Walker, S. (2003). Active Learning Strategies to Promote Critical Thinking. *Journal of Athletic Training*, 38 (3), pp. 263-367.
- Wardhani, N.Y. & Wasis (2010). *Analisis Kemampuan Sains Domain Konten dan Kognitif Siswa Indonesia Kelas VIII SMP/MTs Berdasarkan Data TIMSS 2007*. Jakarta : Pusat Penilaian Pendidikan Badan Penelitian dan Pengembangan Kementerian Pendidikan Nasional. Didapat 14 Agustus, 2016, dari: <http://litbang.kemdikbud.go.id/data/puspendik/HASIL%20RISET/TIMSS/Laporan%20TIMSS%202007%20%20Analisis%20Kemampuan%20Sains%20Domain%20Konten%20dan%20Kognitif%20siswa%20Indonesia%20Kelas%20VIII%20SMPMTs%20Berdasarkan%20Da~1.pdf>
- Yasri, P. (2014). A Systematic Classification of Student Misconceptions in Biological Evolution. *International Journal of Biology Education*, 3 (2), pp. 31-41
- Yates, T.B. & Marek, E.A. (2014). Teachers teaching misconceptions: a study of factors contributing to high school biology students' acquisition of biological evolution-related misconceptions. *Springer Open Journal, Evolution: Education and Outreach*, 7, pp. 1-18.
- Yenilmez, A., Sungur, S., & Tekkaya, C. (2005). Investigating Students' Logical Thinking Abilities: The Effects of Gender and Grade Level. *Journal of Science Education and Technology*, 28, pp. 219-225.
- Zeidan, A. (2010). The Relationship between grade 11 Palestinian attitudes toward biology and their perceptions of the biology learning environment. *Int. J. Sci. Maths. Educ.*, 8:783-800.
- Zeyer, A. (2010). Motivation to Learn science and Cognitive Style. *Journal of Mathematics, Science and Technology Education*, 6 (2), pp. 121-128.
- Zhu, Y. & Leung, F. K. S. (2011). Motivation and achievement: Is there an East Asian model?. *International Journal of Science and Mathematics Education*, 9, pp. 1189-1212