

DAFTAR PUSTAKA

- Acar, O., & Patton, B. R. (2012). Argumentation and Formal Reasoning Skills in An Argumentation-Based Guided Inquiry Course. *Procedia-Social and Behavioral Sciences*, 46, 4756-4760.
- Alshamali, M. A., & Daher, W. M. (2016). Scientific Reasoning and Its Relationship with Problem Solving: the Case of Upper Primary Science Teachers. *International Journal of Science and Mathematics Education*, 14(6), 1003-1019.
- Bybee, R. W., Taylor, J. A., Gardner, A., Van Scotter, P., Powell, J. C., Westbrook, A., & Landes, N. (2006). The BSCS 5E Instructional Model: Origins and Effectiveness. *Colorado Springs, Co: BSCS*, 5, 88-98.
- Cetin, P. S., Dogan, N., & Kutluca, A. Y. (2014). The Quality of Pre-service Science Teachers' Argumentation: Influence of Content Knowledge. *Journal of science teacher education*, 25(3), 309-331.
- Chen, C.-T., & She, H.-C. (2015). The Effectiveness of Scientific Inquiry With/Without Integration of Scientific Reasoning. *International Journal of Science & Mathematics Education*, 13(1).
- Chin, C.-C., Yang, W.-C., & Tuan, H.-L. (2016). Argumentation In A Socioscientific Context and Its Influence on Fundamental and Derived Science Literacies. *International Journal of Science and Mathematics Education*, 14(4), 603-617.
- Choi, A., Notebaert, A., Diaz, J., & Hand, B. (2010). Examining Arguments Generated by Year 5, 7, and 10 Student in Science Classrooms. *Research in Science Education*, 40(2), 149-169.
- Christenson, N., Gericke, N., & Rundgren, S.-N. C. (2015). Science and Language Teachers' Assessment of Upper Secondary Students' Socioscientific Argumentation. *International Journal of Science and Mathematics Education*, 1-20.
- Creswell, J. W. (2013). *Qualitative Inquiry & Research Design 3rd ed.* USA: SAGE Publications, Inc.

- Dawson, V., & Venville, G. J. (2009). High-school Students' Informal Reasoning and Argumentation about Biotechnology: An indicator of scientific literacy? *International Journal of Science Education*, 31(11), 1421-1445.
- Dawson, V. M., & Venville, G. (2010). Teaching Strategies for Developing Students' Argumentation Skills About Socioscientific Issues In High School Genetics. *Research in Science Education*, 40(2), 133-148.
- Ding, L., Wei, X., & Molloyhan, K. (2016). Does Higher Education Improve Student Scientific Reasoning Skills? *International Journal of Science and Mathematics Education*, 14(4), 619-634.
- Djarmiko, I. W. (2014). *Hakikat Pengembangan Kurikulum 2013 dan Implementasinya dalam Pembelajaran pada Sekolah Menengah Kejuruan*. Yogyakarta: Workshop Penguasaan Teknologi Informasi dan Pengembangan Kurikulum 2013 pada tanggal 10 mei 2014 di SMK Muhammadiyah Prambanan.
- Dolan, E., & Grady, J. (2010). Recognizing Students' Scientific Reasoning: A Tool for Categorizing Complexity of Reasoning During Teaching By Inquiry. *Journal of science teacher education*, 21(1), 31-55.
- Erduran, S., Ozdem, Y., & Park, J.-Y. (2015). Research Trends on Argumentation in Science Education: A Journal Content Analysis from 1998–2014. *International Journal of STEM Education*, 2(1), 5.
- Foong, C.-C., & Daniel, E. G. (2010). Assessing Students' Arguments Made in Socio-Scientific Contexts: The Considerations of Structural Complexity and the Depth of Content Knowledge. *Procedia-Social and Behavioral Sciences*, 9, 1120-1127.
- Fraenkel, J. R., Wallen, N. E. & Hyun, H. H. (2012). *How to Design and Evaluate Research in Education*. New York: The McGraw - Hill Companies, Inc.
- Furtak, E. M., Hardy, I., Beimbrech, C., Shavelson, R. J., & Shemwell, J. T. (2010). A Framework for Analyzing Evidence-based Reasoning in Science Classroom Discourse. *Educational Assessment*, 15(3-4), 175-196.
- Giere, R. N. (2001). A New Framework for Teaching Scientific Reasoning. *Argumentation*, 15(1), 21-33.

- Gillies, R. M., Nichols, K., Burgh, G., & Haynes, M. (2014). Primary Students' Scientific Reasoning and Discourse During Cooperative Inquiry-Based Science Activities. *International Journal of Educational Research*, 63, 127-140.
- Han, J. (2013). *Scientific Reasoning: Research, Development, and Assesment*. The Ohio State University: Disertasi.
- Handler, B. (2010). Teacher as Curriculum Leader: A Consideration of The Appropriateness of that Role Assignment to Classroom-Based Practitioners. *International Journal of Teacher Leadership*, 3(3), 32-42.
- Herawati, D. (2015). *Perkembangan Kemampuan Penalaran Ilmiah Siswa pada Sekolah Multinasional dengan Sekolah Lingkungan*. UPI Bandung: Tesis.
- Hosnan. (2014). *Pendekatan Scientific dan Kontekstual dalam Pembelajaran Abad 21*. Bogor: Ghalia Indonesia.
- Inch. (2006). *Critical Thinking and Communication: The Use of Reasonin Argument*. USA: Pearson Education, Inc.
- Karplus, R., & Butts, D. P. (1977). Science Teaching and the Development of Reasoning. *Journal of Research in Science Teaching*, 14(2), 169-175.
- Kementerian Pendidikan dan Kebudayaan. (2013a). *Salinan Permendikbud Nomor. 65 tentang Pengembangan RPP*. Jakarta: Kemendikbud.
- Kementerian Pendidikan dan Kebudayaan. (2013b). *Peraturan Pemerintah Nomor 32 Tahun 2013 tentang Perubahan Atas Peraturan Pemerintah Nomor 19 Tahun 2005 tentang Standar Nasional Pendidikan*. Jakarta: Kemendikbud.
- Kementerian Pendidikan dan Kebudayaan. (2013c). *Permendikbud No. 69 Tahun 2013 tentang KD dan Struktur Kurikulum SMA*. Jakarta: Kemendikbud.
- Kementerian Pendidikan Nasional. (2006). *Permendiknas Nomor. 22 Tahun 2006 tentang SK-KD SMA*. Jakarta: Kemendiknas.
- Keskin, S., C. (2013). Students' Cognitive Awariness About the Reasons of Environmental Problems. *World Applied Sciences journal*, 4(3), 378-381.

- Khan, W., & Ullah, H. (2010). Scientific Reasoning: A Solution to the Problem of Induction. *International Journal of Basic & Applied Sciences IJBASIJENS*, 10(3), 49-53.
- Koenig, K., Schen, M., & Bao, L. (2012). Explicitly Targeting Pre-Service Teacher Scientific Reasoning Abilities and Understanding of Nature of Science Through an Introductory Science Course. *Science Educator*, 21(2), 1.
- Koulaidis, V., & Dimopoulos, C. (2003). Science Education in Primary and Secondary Level. *International Journal of Learning*, 10.
- Lawson, A. E. (2004). The Nature and Development of Scientific Reasoning: A Synthetic View. *International Journal of Science and Mathematics Education*, 2(3), 307.
- Lawson, A. E. (2011). Robert G. Fuller, Thomas C. Campbell, Dewey I. Dykstra, Jr., and Scott M. Stevens (eds): College Teaching and the Development of Reasoning. *Science & Education*, 20(1), 99-102.
- Lawson, A. E., Alkhoury, S., Benford, R., Clark, B. R., & Falconer, K. A. (2000). What Kinds of Scientific Concepts Exist? Concept Construction and Intellectual Development in College Biology. *Journal of Research in Science Teaching*, 37(9), 996-1018.
- Lazonder, A. W., & Wiskerke-Drost, S. (2015). Advancing Scientific Reasoning in Upper Elementary Classrooms: Direct Instruction Versus Task Structuring. *Journal of science education and technology*, 24(1), 69-77.
- Lee, C.-Q., & She, H.-C. (2010). Facilitating Students' Conceptual Change and Scientific Reasoning Involving the Unit of Combustion. *Research in Science Education*, 40(4), 479-504.
- McDonald, C. V. (2014). Preservice Primary Teachers' Written Arguments in a Socioscientific Argumentation Task. *Electronic Journal of Science Education*, 18(7).
- McMillan, J. H., Schumacher, S. (2001). *Research in Education Edisi Keempat*. San Francisco: Addison Wesley Longman, Inc.

- Mercanlioglu, Ç. (2010). The Relationship of Time Management to Academic Performance of Master Level Students. *International Journal of Business and Management Studies*, 2(1), 25-36.
- Mirza, N., M. & Clemort, A., N., P. (2009). *Argumentation and Education: Theoretical Foundations and Practices*, epartment of Psychology. Faculty of Political and Social Sciences, University of Lausanne: Lausanne, Switzerland.
- Mohammad, R., & Kumari, R. (2007). Effective Use of Textbooks: A Neglected Aspect of Education in Pakistan. *Journal of Education for International Development*, 3(1), 1-12.
- Muldayanti, N. D. (2013). Pembelajaran Biologi Model STAD dan TGT ditinjau dari Keingintahuan dan Minat Belajar Siswa. *Jurnal Pendidikan IPA Indonesia*, 2(1).
- Mulyasa, E. (2015a). *Implementasi Kurikulum Tingkat Satuan Pendidikan Kemandirian Guru dan Kepala Sekolah*. Jakarta: Bumi Aksara.
- Mulyasa, E. (2015b). *Guru dalam Implementasi Kurikulum 2013*. Bandung: Remaja Rosdakarya.
- Munurung, S. R. (2013). *Pengembangan Model Pembelajaran Dengan Media Hiperteks Berdasarkan Skema Pemecahan Masalah Berintikan Argumentasi Tolmin: Suatu Studi Penerapan pada Topik Kinematika*. UPI bandung: Disertasi.
- Muslich, M. (2011). *KTSP Dasar Pemahaman dan Pengembangan*. Jakarta: Bumi Aksara.
- Ogan-Bekiroglu, F., & Eskin, H. (2012). Examination of the Relationship Between Engagement in Scientific Argumentation and Conceptual Knowledge. *International Journal of Science and Mathematics Education*, 1-29.
- Osakwe, R. N. (2014). Classroom Management: A Tool for Achieving Quality Secondary School Education in Nigeria. *International Journal of Education*, 6(2), 58.

- Osborne, J., Erduran, S., Simon, S., & Monk, M. (2001). Enhancing the Quality of Argument in School Science. *School science review*, 82(301), 63-70.
- Piraksa, C., Srisawasdi, N., & Koul, R. (2014). Effect of Gender on Student's Scientific Reasoning Ability: A Case Study in Thailand. *Procedia-Social and Behavioral Sciences*, 116, 486-491.
- Purwanto, N. (2010). *Prinsip-prinsip dan Teknik Evaluasi Pengajaran*. Bandung: Remaja Rosdakarya.
- Pusat Kurikulum. (2007). *Kurikulum Tingkat Satuan Pendidikan*. Jakarta: Departemen Pendidikan Nasional.
- Puteh, M., Che Ahmad, C., Mohamed Noh, N., Adnan, M., & Ibrahim, M. (2015). The Classroom Physical Environment and its Relation to Teaching and Learning Comfort Level. *interpretation*, 18, 20.
- Roshayanti, F. (2012). *Pengembangan Model Assesment Argumentatif Untuk Mengukur Keterampilan Argumentasi Mahasiswa pada Konep Fisiology Manusia*. UPI Bandung: Disertasi.
- Rustaman, N. Y. (2003). *Common Textbook Strategi Belajar Mengajar Biologi*. Bandung: Jica.
- Santrock, J. W. (2011). *Educational Psychology 5th ed*. New York: The McGraw-Hill Companies. Inc.
- Šešelja, D., & Straßer, C. (2013). Abstract Argumentation and Explanation Applied to Scientific Debates. *Synthese*, 190(12), 2195-2217.
- Shofiyah, N., Supardi, Z., & Jatmiko, B. (2013). Mengembangkan Penalaran Ilmiah (Scientific Reasoning) Siswa Melalui Model Pembelajaran 5E Pada Siswa Kelas X Sman 15 Surabaya. *Jurnal Pendidikan IPA Indonesia*, 2(1).
- Simonneaux, L., & Simonneaux, J. (2009). Students' Socio-Scientific Reasoning on Controversies from the Viewpoint of Education for Sustainable Development. *Cultural studies of science Education*, 4(3), 657-687.
- Simosi, M. (2003). Using Toulmin's Framework for the Analysis of Everyday Argumentation: Some Methodological Considerations. *Argumentation*, 17(2), 185-202.

- Sprod, T. (1998). "I Can Change Your Opinion on that": Social Constructivist Whole Class Discussions and Their Effect on Scientific Reasoning. *Research in Science Education*, 28(4), 463-480.
- Sugiono. (2012). *Metode Penelitian Pendekatan Kuantitatif, Kualitatif dan R & D*. Bandung: Alfa Beta.
- Suharman. (2005). *Psikologi Kognitif*. Surabaya: Srikandi.
- Sutopo & Waldrip, B. (2014). Impact of A Representational Approach on students' Reasoning and Conceptual Understanding in Learning mechanics. *International Journal of science and Mathematics Education*, 24(12), 741-765.
- Tajudin, N. a. M., Saad, N. S., Rahman, N. A., Yahaya, A., Alimon, H., Dollah, M. U., Suprijanto, D. (2012). *Mapping the Level of Scientific Reasoning Skills to Instructional Methodologies Among Malaysian Science-Mathematics-Engineering Undergraduates*. Paper presented at the AIP Conference Proceedings.
- Toulmin. (1984). *An Introducting to Reasoning*. New York: MacMillan.
- Triwiyanto, T. (2015). *Manajemen Kurikulum dan Pembelajaran*. Jakarta: Bumi Aksara.
- Tsui, C. Y., & Treagust, D. (2010). Evaluating Secondary Students' Scientific Reasoning in Genetics Using a Two-Tier Diagnostic Instrument. *International Journal of Science Education*, 32(8), 1073-1098.
- Tytler, R., & Peterson, S. (2003). Tracing Young Children's Scientific Reasoning. *Research in Science Education*, 33(4), 433-465.
- Ustunluoglu, E., Zazaoglu, K. F. A., Keskin, M. N., Saraykoylu, B., & Akdogan, G. (2012). Developing a CEF Based Curriculum: A Case Study. *Online Submission*, 5(1), 115-128.
- van Mil, M. H., Boerwinkel, D. J., & Waarlo, A. J. (2013). Modelling Molecular Mechanisms: A Framework of Scientific Reasoning to Construct Molecular-Level Explanations for Cellular Behaviour. *Science & Education*, 22(1), 93-118.

- Varma, K. (2014). Supporting Scientific Experimentation and Reasoning in Young Elementary School Students. *Journal of science education and technology*, 23(3), 381-397.
- Verheij, B. (2005). Evaluating Arguments Based on Toulmin's Scheme. *Argumentation*, 19(3), 347-371.
- Waldrip, B. (2014). Impact Of A Representational Approach On Students'reasoning And Conceptual Understanding In Learning Mechanics. *International Journal of Science & Mathematics Education*, 12(4).
- Waldrip, B., Prain, V., & Sellings, P. (2013). Explaining Newton's Laws of Motion: Using Student Reasoning Through Representations to Develop Conceptual Understanding. *Instructional science*, 41(1), 165-189.
- Walsh, J., A, Sattes, B, D. (2011). *Thinking Through Quality Questioning Deepening Student Engagement*. USA: Library of Congress Cataloging in Publication Data.
- Widodo, A., Waldrip, B., & Herawati, D. (2016). Students Argumentation in Science Lessons: A Story of Two Research Projects. *Jurnal Pendidikan IPA Indonesia*, 5(2).
- Wilson, C. D., Taylor, J. A., Kowalski, S. M., & Carlson, J. (2009). The Relative Effects of Inquiry-Based and Commonplace Science Teaching on Students' Knowledge, Reasoning and Argumentation about Sleep Concepts: A Randomized Control Trial. *Society for Research on Educational Effectiveness*.
- Wyner, Y. (2013). The Impact of a Novel Curriculum on Secondary Biology Teachers' Dispositions Toward Using Authentic Data and Media in Their Human Impact and Ecology Lessons. *Journal of science teacher education*, 24(5), 833-857.
- Yang, F.-Y., & Tsai, C.-C. (2010). Reasoning About Science-Related Uncertain Issues and Epistemological Perspectives Among Children. *Instructional science*, 38(4), 325-354.
- Yun, S. M., & Kim, H.-B. (2015). Changes in Students' Participation and Small Group Norms in Scientific Argumentation. *Research in Science Education*, 45(3), 465-484.

Zimmerman, C. (2000). The Development of Scientific Reasoning Skills. *Developmental Review*, 20(1), 99-149.

Zimmerman, C. (2005). *The Development of Scientific Reasoning Skill: What Psychologists Contribute to an Understanding of Elementary Science Learning*. Illinois State University.