DAFTAR PUSTAKA

Akinoglu, O., & Tandogan, R. O. (2007). The Effects of Problem-Based Active Learning in Science Education on Student's Academic Achievement, Attitude and Concept Learning. *Turkey: Eurasia Journal of Mathematics, Science and Technology Education*.

Amir, T. (2010). *Inovasi Pendidikan Melalui Problem Based Learning*. Jakarta: Kencana Prenada Media Group.

Anderson, L. W., & Krathwohl, D. R. (Penyunting). (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* A Bridged Edition. Boston: Addison Wesley Longman, inc.

Arends, R. I. (2008). *Belajar untuk Mengajar. Edisi ke tujuh alih bahasa oleh Helly Prayitno dan Sri Mulyantani Prayitno dari judul Learning to Teach. Seven edition*. Yogyakarta: Penerbit Pustaka Pelajar.

Arikunto, S. (2006). *Dasar-Dasar Evaluasi Pendidikan.* Jakarta: PT Bumi Aksara.

Asiksoy, G., & Ozdamli, F. (2015). Flipped Classroom Adapted to the ARCS Model of Motivation and Applied to a Physics Course. *Eurasia Journal of Mathematics, Science & Technology Education*, 12(6), 1589-1603.

Astuti, S. P. (2015). Pengaruh Kemampuan Awal dan Minat Belajar terhadap Prestasi Belajar Fisika. *Jurnal Formatif*, 5(1), 68-75.

Bricker, L., & Bell, P. (2009). Conceptualizations of Argumentation from Science Studies and the Learning Sciences and their Implications for the Practices of Science Education. *Science Education*, 92(3), 473-498.

Butt, A. (2014). Student Views on the Use of a Flipped Classroom Approach: Evidence from Australia. *Bus Educ Acredit*, 6(1), 33–43.

Calik, M., Ebenezer, J., Ozsevgec, T., Kucuk, Z., & Artun, H. (2015). Improving Science Student Teachers' Self-Perception of Fluency with Innovative Technologies and Scientific Inquiry Abilities. *J Sci Educ Technol*, 24.

Dahar, R. W. (2011). *Teori-Teori Belajar dan Pembelajaran*. Jakarta: Erlangga.

Darland, C., & Carmichael, S. (2012). Long-Term Retention of Knowledge and Critical Thinking Skill in Developmental Biology. *Journal of Microbiology & Biology Educational*, 13(2), 125-132.

Dawson, V., & Venville, G. J. (2009). Teaching Strategies for Developing Students' Argumentation Skill about Sosioscientific in High School Genetics. *Research in Science Education*, 40(1), 133-148.

DeJenger T. (2012). Can First Year Students Critical Thinking Skills Develop in a Space of Three Months?. *Science Direct*, 47. 1374-1381.

Driver, R., Newton, P., & Osborne, J. (2000). Establishing the Norms of Scientific Argumentation in Classrooms. *Science Education*, 84(3), 287–312.

Duschl, R. A., & Osborne, J. (2002). Supporting and Promoting Argumentation Discourse in Science Education. *Studies In Science Education*, 38(1), 39–72.

Eemeren, van F. H., & Grootendorst, R. (2004). *A Systematic Theory of Argumentation the Pragma-Dialectical Approach*. United Kingdom: Cambridge University Press.

Erduran, S., Osborne, J., & Simon, S. (2008). Enhancing the Quality of Argumentation in School Science. *Journal of Research in Science Teaching*, 41(10), 994–1020.

Fraenkel, J. R., Wallen, Norman, E. (2007). *How To Design and Evaluate Reseach in Education.* Edisi 6. New York: The Mc Graw Hill Companies.

Framework for 21st Century Learning. (2010). *The Partnership for 21st Century Skills*. [*Online*]. Diakses dari http://www. p21.org/overview/skills-framework.

Gilboy, M. B., Heinerichs, S., & Pazzaglia, G. (2015). Enhancing Student Engagement Using the Flipped Classroom. *J Nutr Educ Behav*, 47(1), 109–114.

Gojak L. (2012). To flip or not to flip: that is not the question! *National Council of Teachers of Mathematics*.

Gonzalez-Gomez, D., Jeong, J. S., Airado Rodriguez, D., Canada, C., & Florentina. (2016). Performance and Perception in the Flipped Learning Model: an Initial Approach to Evaluate the Effectiveness of a New Teaching Methodology in a General Science Classroom. *Journal Science Education Technology*, 25, 450-459.

Golanics & Nussbaum. (2008). Collaborative Discourse, Argumentation, and Learning: Preface and Literature Review. *Contemporary Educational Psychology*, 33(3), 345-359.

Hake, R.R. (1999). *Analyzing Change/Gain Scores*. United States of America Indiana University.

Hamden, N., McKnight, P. E., McKnight, K., & Arfstrom, K. (2013). A Review of Fipped Learning. Flipped Learning Network. *Pearson Education, Upper Saddle River*.

Harasym, H. P., Tsai, T. C., Munsi, M. F. (2013). Is Problem-Based Learning an Ideal Format Developing Ethical Decision Skill. *Kasoshiung Journal of Medical Sciences*, 29, 523-529.

Harmer, A. J., & Cates, W. M. (2007). Designing for Learner Engagement in Middle School Science: Technology, Inquiry, and the Hierarchies of Engagement. *Computers in the Schools*, 24, 105–124.

Herawati, D. (2015). *Penalaran Ilmiah (Scientific Reasoning) Siswa Sekolah Berorientasi Lingkungan dan Sekolah Multinasional*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Jeong, J. S, Gomes, D. G, & Canada, F. C. (2016). Students' Perception and Emotions Toward Learning in a Flipped General Science Education. *Journal Science Education Technology*, 25, 747-758.

Jimenez-Aleixandre, M. P., Rodriguez, A. B., & Duschl, R. A. (2000). "Doing The Lesson" or "Doing Science": Argument in High School Genetics. *Science Education*, 84(6), 757-792.

Jimenez-Aleixandre, M. P., Agraso, M. F., & Eirexas, F. (2004). *Scientific Authority and Empirical Data in Argument Warrants about the Prestige Oil Spill*. Paper Presented at the National Association for Research in Science Teaching (NARST) Annual Meeting, Vancouver, WA.

Joiner, R., & Jones, S. (2003). The Effects of Communication Medium on Argumentation and the Development of Critical Thinking. *International Journal of Educational Research*, (39), 861-871.

Kaya, E., Erduran, S., & Cetin, P. S. (2010). High School Students' Perceptions of Argumentation. *Procedia Social and Behavioral Sciences*, (2), 3971-3975.

Kemendikbud. (2013). *Modul Pelatihan Implementasi Kurikulum 2013: Model Pembelajaran Berbasis Masalah*. Jakarta: Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjaminan Mutu Pendidikan.

Kemendikbud. (2016). *Silabus Mata Pelajaran SMP/MTs Mata Pelajaran IPA*. Jakarta: Kemendikbud.

Kemendikbud. (2017). *Model Silabus Mata Pelajaran Sekolah Menengah Pertama/Madrasah Tsanawiyah (SMP/MTs).* Jakarta: Kemendikbud.

Ketelhut, D., Nelson, B. C., Clarke, J., & Dede, C. (2010). A Multi-User Virtual Environment For Building and Assessing Higher Order Inquiry Skills in Science. *Br J Educ Technol*, 41, 56–68.

Kind, P. M., *et al*. (2011). Peer Argumentation in the School Science Laboratory-Exploring Effect of Task Features. *International Journal of Science Education*, 33(18), 2527-2558.

Kulatunga, U., Moog, R. S., & Lewis, J. E. (2013). Argumentation and Participation Patterns in General Chemistry Peer- led Sessions. *Journal of Research in Science Teaching*, 50(10), 1207-1231.

Kuhn, D. (1991). *The Skills of Argument*. New York: Cambridge University Press.

Kuhn, D., & Udell, W. (2003). The Development of Argument Skills. *Child Development*, 74 (5), 1245-1260.

Larkin-Hein, Teresa & Zollman, D. A. (2000). Digital Video, Learning Styles, and Student Understanding of Kinematics Graphs. *Journal of SMET Education*.

Liou, W. K., Bhagat, K. K., & Chang, C. Y. (2016). Beyond the Flipped Classroom: a Highly Interactive Cloud-Classroom (HIC) Embedded into Basic Materials Science Courses. *Journal Science Education Technology*, 25, 460-473.

Matlin, M. E. (2009). *Cognitive Psychology*. Seventh Edition. Internasional Student Version. Jhon Wiley & Sons, Inc.

Mayer, R. E., & Moreno, R. (2003). Nine Ways To Reduce Cognitive Load In Multimedia Learning. *Educational Psychologist*, 38, 43–52.

Mimbs, A. C. (2005). Teaching from the Critical Thinking, Problem Based Learning Curricular Approach: Strategies, Challenges, and Recommendations. *Journal of Family and Consumer Sciences Education*, 23(2), 312-326.

Moore, A., Gillett, M., & Steele, M. (2014). Fostering Student Engagement With The flip. *Math Teach*, 107(6), 22–27.

Moraros, J., Islam, A., Yu, S., Banow, R., & Schindelka, B. (2015). Flipping for Success: Evaluating the Effectiveness of a Novel Teaching Approach in a Graduate Level Setting. *BMC Med Educ*.

Muslim. (2014). *Pengembangan Program Perkuliahan Fisika Sekolah Berorientasi Kemampuan Berargumentasi Calon Guru Fisika*. (Disertasi). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Nashar, H. 2004. *Peranan Motivasi Kemampuan Awal dalam Kegiatan Pembelajaran*. Jakarta: Delia Press.

Nasution, S. (2006). *Azas-Azas Kurikulum*. Jakarta: Bumi Aksara.

Newton, P. Driver, R. & Osborne, J. (1999). The Place of Argumentation in the Pedagogy of School Science. *International Journal of Science Education*, 21(5), 553-576.

O'Flaherty, J., & Phillips, C. (2015). The Use of Flipped Classrooms in Higher Education: a Scoping Review. *Internet High Educ*, 25, 85–95.

Olakanmi, E. E. (2017). The Effects of a Flipped Classroom Model of Instruction on Students' Performance and Attitudes towards Chemistry. *Journal Science Education Technology*, (26), 127-137.

Pritasari, A. C., Dwiastuti, S., & Probosari, R. M. (2016). Peningkatan Kemampuan Argumentasi melalui Penerapan Model Problem Based Learning pada Siswa Kelas X MIA 1 SMA Batik 2 Surakarta Tahun Pelajaran 2014/2015. *Jurnal Pendidikan Biologi* (1) Vol. 8, 1-7.

Purwanto, N. (2010). *Prinsip-Prinsip dan Teknik Evaluasi Pengajaran*. Bandung: Remaja Rosda Karya.

Puzio, K., & Leo, J. (2016). Flipped Instruction in a High School Science Classroom. *Journal Science Education Technology*, (25), 775-781.

Rahmawati, F., Soegimin, & Kardi, S. (2016). Pengembangan Perangkat Pembelajaran Fisika Model Inkuiri Terbimbing Berbantuan Videoscribe pada Materi Kalor untuk Meningkatkan Hasil Belajar Siswa SMAN 1 Kedungwaru. *Jurnal Pendidikan Sains Pascasarjana Universitas Negeri Surabaya*, vol. 5, No. 2.

Redhana, I. W. (2012). *Model Pembelajaran Berbasis Masalah dan Pertanyaan Socratik untuk Meningkatkan Keterampilan Berpikir Kritis Siswa*.

Cakrawala Pendidikan, November 2012, Th. XXXI, No. 3. Singaraja: FMIPA Universitas Pendidikan Ganesha.

Rosenbaum, E., Klopfer, E., Perry, J. (2007). On Location Learning: Authentic Applied Science with Networked Augmented Realities. *J Sci Educ Technol*, 16, 31–45 .

Roshayanti, F. (2012). *Pengembangan Model Asesmen Argumentatif untuk Mengukur Keterampilan Argumentasi Mahasiswa pada Konsep Fisiologi Manusia*. (Disertasi). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Sadler, T. D., & Zeidler, D.L. (2005). The Significance of Content Knowledge for Informal Reasoning Regarding Socioscientific Issues: Applying Genetics Knowledge to Genetic Engineering Issues. *International Journal of Science Education*, 89(1), 71-93.

Saidler, T. D. (2004). Informal Reasoning Regarding Socioscientific Issues: a Critical Review of Research. *Journal of research in science teaching*, 41(5), 513-536.

Sampson, V., & Gerbino, F. (2010). Two Instructional Models that Teachers can Use to Promote & Support Scientific Argumentation in the Biology Classroom. *The American Biology Teacher*, 72(7), 427-431.

Sampson, V., Grooms, J., & Walker, J. P. (2010). Argument-Driven Inquiry as a Way to Help Students Learn How to Participate in Scientific Argumentation and Craft Written Arguments : An Exploratory Study. *Science Education*, 95, 217-257.

Sani, R. A. (2014). *Pembelajaran Saintifik untuk Implementasi Kurikulum 2013*. Jakarta: Bumi Aksara.

Sanjaya, W. (2014). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Bandung: Kencana Prenadamedia Group.

Saracaloglu, A. S., Aktamis, H., & Delioglu, Y. (2011). The Impact of the Development of Prospective Teachers' Critical Thinking Skills on Scientific Argumentation Training and on Their Ability to Construct an Argument. *Journal of Baltic Science Education*, 10(4), 243-259.

Schultz, D., Duffield, S., Rasmussen, S. C., & Wageman, J. (2014). Effects of the Flipped Classroom Model on Student Performance for Advanced Placement High School Chemistry Students. *Journal of Chemical Education*, 91(9), 1334-1339.

Simon, S. (2008). Using Toulmin's Argument Pattern in the Evaluation of Argumentation in School Science. *International Journal of Research & Method in Education*, 31(3), 277-289.

Simon, S., Erduran, S., & Osborne, J. (2006). Learning to Teach Argumentation: Research and Development in the Science Classroom. *International Journal Of Science Education*, 28(2–3), 235–260.

Sowa, L., & Thorsen, D. (2015). *An Assessment of Student Learning, Perceptions and Social Capital Development in Undergraduate, Lower-division STEM Courses Employing a Flipped Classroom Pedagogy*. Paper Presented at the 122nd ASEE Annual Conference & Exposition.

Steck, T. R., Dibiase, W., Wang, C., & Boukhtiarov, A. (2012). The Use of Open-Ended Problem-Based Learning Scenarios in Interdisciplinary Biotechnology Class: Evaluation of a Problem-Based Learning Course across Three Year. *Journal of Microbiology & Biology Educational*, 13(1), 2-10.

Sugiyono. (2010). *Metode Penelitian Pendidikan*. Bandung : Alfabeta.

Sun, C. T., Ye, S. H., & Wang, Y. J. (2015). Effects Of Commercial Video Games On Cognitive Elaboration Of Physical Concepts. *Computers & Education*, 88, 169–181.

Suparno. (2001). *Teori Perkembangan Kognitif Jean Piaget*. Yogyakarta: Penerbit Kanisius.

Supriatna, A. (2016). *Peningkatan Kemampuan Berpikir Kritis dan Penalaran Siswa SMP Melalui Model Pembelajaran Problem Based Learning (PBL) pada Konsep Pemanasan Global*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Tan, O. S. (2003). *Problem Based Learning Innovation: Using Problems to Power Learning in the 21 Century*. Singapore: Thomson.

Taufiq, M. 2017. *Penerapan Pembelajaran Interactive Lecture Demonstrations (ILD) berbantuan Science Magic untuk Meningkatkan Pemahaman Materi Tekanan dan Attitude towards Physics Siswa MTs*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Tarigan, A. E. (2015). *Penerapan PBL Berbasis Metode Praktikum terhadap Penguasaan Konsep dan Kemampuan Argumentasi Tertulis Siswa pada Materi Interaksi Makhluk Hidup dengan Lingkungan*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Tucker, B. (2012). The Flipped Classroom. Online Instruction at Home Frees Class for Learning. *Educ Next*, 12(1), 82–83.

Venville, G. J. & Dawson, V. M. (2010). The Impact of a Classroom Intervention on Grade 10 Students' Argumentation Skill, Informal Reasoning, and Conceptual Understanding of Science. *Journal of Research in Science Teaching*, 47(8), 952-977.

Viyanti. (2015). The Profile of Argumentation Skill Using "Toulmin Argumentation Pattern" Analysis in the Archimedes Principal on the

Students of SMA Kota Bandar Lampung. *Jurnal Pendidikan IPA Indonesia*, 4(1), 86-89.

von Aufschnaiter, C., *et al*. (2008). Arguing to Learn and Learning to Argue: Case Studies of How Students Argumentation Relates to Their Scientific Knowledge. *Journal of Research in Science Teaching,* 45(1), 101-131.

Varma, K. (2014). Supporting Scientific Experiments and Reasoning in Young Elementary School Students. *Journal of Science Education and Technology*, 23, 381-397.

Waldrip, B., Prain, V., & Sellings, P. (2013). Explaining Newton's Laws of Motion: Using Student Reasoning though Representations to Develop Conceptual Understanding. *Instructional Science*. 41, 165-189.

Wibowo, F.C. (2012). *Penerapan Model Pembelajaran Berbasis Pengalaman untuk Meningkatkan Hasil Belajar Kognitif dan Kemampuan Pemecahan Masalah Fisika Siswa SMP*. (Tesis). Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Bandung.

Widodo, L. W. (2013). Peningkatan Aktivitas Belajar dan Hasil Belajar Peserta Didik dengan Metode *Problem Based Learning* pada Siswa Kelas VIIA MTs Negeri Donomulyo Kulon Progo Tahun Pelajaran 2012/2013. *Jurnal Fisika Indonesia*, 49(17).

Yuan, H., Kunaviktikul, W., Klunklin, A., Williams, B. A. (2008). Promoting critical thinking skills through problem-based learning. CMU. *Journal of Soc.Sci. and Human*, 2(2), 234-247.

Zohar, A., & Nemet, F. (2002). Fostering Students' Knowledge and Argumentation Skills through Dilemmas in Human Genetics. 39(1), 35-62.