

DAFTAR PUSTAKA

- Abanikannya, M.O. (2016). Influence of Problem Based-Learning in Chemistry on Achievement of High School Students in Osun State Nigeria. *International Journal of Education, Learning And Development*. Vol 4, No. 3, 55-63.
- Abidin, Y. (2014). *Desain Sistem Pembelajaran dalam Konteks Kurikulum 2013*. Bandung: PT. Refika Aditama.
- Aidoo, B., Boateng S.K., Kissi, P S., dan Ofori, I. (2016) The Effect of Problem based Learning on Students Achievement in Chemistry. *Journal of Education and Practice*. Vol. 7, 103-108.
- Akinoglu, O, & Tandagon, R.O. (2007). The Effect of Problem-Based Active Learning in Science Education on Student Academic Achievement, Attitude and Concept Learning. *Eurasia Journal of Mathematics, Science & Technology Education*, 3 (1), 71-81.
- Alejandro, R.M., Rosario, C.R dan Juan, B.G. (2010). Problem Based Learning: Analysis of Continuous Stirred Tank Chemical Reactors with A Process Control Approach. *International journal of software engineering & applications (IJSEA)*. Vol. 1, 54-71.
- Amanda. (2007). *Minyak Jelantah pun Bisa Dijadikan Sabun Mandi*. http://pikiran_rakyat.ai_ms/Minyak%20jelantah%20pun%20pun%20Bisa%20Dijadikan%20Sabun%20Mandi.htm. Diakses pada 15 Desember 2017.
- Amalia, Z.Q. dan Kastianti, N. (2008). Laporan Penelitian Pengambilan Minyak Atsiri dengan Metode Ekstraksi Distilasi Vakum. Skripsi Fakultas Teknik, Universitas Diponegoro, Semarang.
- Anderson, L.W. & Krathwohl, D.R. (2010). *Kerangka Landasan Untuk Pembelajaran, Pengajaran dan Asesmen*. Yogyakarta: Pustaka Belajar.
- Arends, R. 2008. *Learning to the Teach*. Jakarta: Pustaka Belajar.
- Arends, R. I. (1997). *Classroom Instruction and Management*. New York: McGraw-Hill.
- Arikunto, Suharsimi. (2009). *Dasar Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- Ariyanti, P. Martini, K.S. and Setyowati, W.A.E. (2012). Penerapan Problem Based Learning dengan Penilaian Portofolio untuk Meningkatkan Keaktifan dan Prestasi Belajar pada Materi Stoikiometri Di SMAN 2 Surakarta Tahun Ajaran 2013/2014. *JPK, Jurnal Pendidikan Kimia*. Vol. 4, 1-9.
- Armitage, A., Pihl, O., dan Ryberg, T. (2015). *PBL and Creative Process*. *Journal of Problem Based Learning in Higher Education*. Vol. 3, 1-4.

- Arnyana, I. B. P. 2006. Pengaruh Penerapan Strategi Pembelajaran Inovatif pada Pelajaran Biologi terhadap Kemampuan Berpikir Kreatif Siswa SMA. *Jurnal Pendidikan dan Pengajaran IKIP Negeri Singaraja*, 39 (3): 496-515.
- Arthur, Guyton C and John, Hall E. 1997. Fisiologi Kedokteran. Jakarta: Penerbit Buku Kedokteran: EGC.
- Basuki, I., dan Hariyanto. (2014). *Asesmen Pembelajaran*. Bandung: PT Remaja Rosdakarya.
- Benefield. (1982). Process Chemistry for Water and Water Treatment. New Jersey: Prentice Hall.
- BPS. 2014. *Distribusi perdagangan komoditi minyak goreng indonesia 2014*. Jakarta: Badan Pusat Statistik.
- Bungin, B. (2010). *Penelitian Kualitatif: Komunikasi, Ekonomi, Kebijakan Publik dan Ilmu Sosial Lainnya*. Jakarta: Kencana Prenada Media Group.
- Chen, L. (2008). *Theories and Practices of Teaching for Creative Thinking*. Taipei: Psychological Publishing.
- Craft, A. (2001; 2004; 2006; 2007). *An Analysis of Research and Literature on Creativity in Education*. Qualification and Curriculum Authority.
- Craft, A., Jeffrey, Bob., Leibling, Mike. (2001). *Creativity In Education*. Continuum.
- Cremin, T., Barnes, J., & Scoffham, S. (2009). *Creative Teaching for Tomorrow: Fostering A Creative State of Mind*. Deal, Kent: Future Creative.
- Cresswell, J.W. (2013). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. California: Pearson.
- Cropley, A. J. (1992). *Creativity research. More ways than one: Fostering creativity*. Westport, CT: Ablex Publishing.
- Dahar, R. W. (1996). Teori-teori Belajar. Bandung: Erlangga.
- Dariyo, A. (2003). Menjadi orang kreatif sepanjang masa. *Jurnal Psikologi*. Vol. 1 No. 1, Juni 2003.
- Darmadi, Hamid. (2014). *Metode Penelitian Pendidikan dan Sosial*. Malang: Alfabeta.
- Departemen Gizi dan Kesehatan Masyarakat. (2004). Gizi dan Kesehatan Masyarakat. Jakarta: Raja Grafindo Persada.
- Depdiknas. (2003). Pendekatan Konstektual (*Contextual Teaching and Learning*). Jakarta: Dirjen Dikdasmen.
- Dimyati dan Mudjiono. (2004). *Belajar dan Pembelajaran*. Jakarta: Proyek Pembinaan dan Peningkatan Mutu Kependidikan. Dirjen Dikti Depdikbud.
- Djamarah, S. B. (2002). *Psikologi Belajar*. PT. Rineka Cipta: Jakarta.

- Djamarah & Zain. (2006). *Strategi belajar mengajar*. PT. Rineka Cipta: Jakarta.
- Esquivel, G. B. (1995). Teacher Behaviours That Foster Creativity. *Educational Psychology Review*, 7, 185-201. doi:10.1007/BF02212493
- Esra, B and Sarikaya, M. (2012). "The Investigation of The Effect of Problem Based Learning to The Academic Achievement and The Permanence of Knowledge of Prospective Science Teacher: The Problem of The Boiler Stone". *Procedia Social and Behavioral Sciences* 46 (2012), 4317–4322.
- E. Mulyasa. (2004). *Kurikulum Berbasis Kompetensi*. Bandung: Remaja Rosdakarya.
- Evans, J.R. (1991). *Creative thinking in the decision and management science*. Cincinnati: South-Western Publishing Co.
- Fesenden & Fesenden. (1999). Kimia Organik Jilid 2. Jakarta: Erlangga.
- Frankel, & Wallen (2011). *How to Design and Evaluate Research in Education*. New York: Mc Graw Hill.
- Fryer, M. (2003). *Creativity Across The Curriculum: A Review and Analysis of Programmes Designed to Develop Creativity*. London: Qualifications & Curriculum Authority.
- Fryer, M. (1996). *Creative Teaching and Learning*. (London, Paul Chapman).
- Gagne, R.A. dan Driscoll, M.P. (1988). Essential of Learning for Instruction. New Jersey: Prentice Hall Inc.
- Griffin, P., McGaw, B., & Care, E. (2012). *Assessment and teaching of 21st century skills* (p. 36). Dordrecht: Springer.
- Gustariawan, Yogi. (2015). Pemanfaatan Limbah Mahkota Nenas Sebagai Karbon Aktif Dengan Menggunakan Aktivator Koh. Skripsi: Politeknik Negeri Sriwijaya. Tidak diterbitkan.
- Hake, R. R. (1998). *Analyzing Change/Gain Scores*. AERA-D_American Educational Research Association's Division, Measurement and research Methodology.
- Hart, Craine. (2003). Kimia Organik. Jakarta: Erlangga.
- Hart, Sumunar. (1983). Kimia Organik. Jakarta: Erlangga.
- Hennessey, B. A. (1995). Social, Environmental, and Developmental Issues and Creativity. *Educational Psychology Review*, 7, 163-183. doi:10.1007/BF02212492.
- Hennessey, B. A. (2007). Creativity And Motivation In The Classroom: A Social Psychological And Multi-Cultural Perspective. In A. G. Tan (Ed.), *Creativity: A Handbook for Teachers*. Singapore City: World Scientific.
- Husin, W., Fadzilah, W. N., Mohamad Arsal, N., Othman, O., Halim, L., Rasul, M. S., Iksan, Z. (2016). Fostering Students' 21st Century Skills Through Project Oriented Problem Based Learning (POPBL) in Integrated STEM

- Education Program. *In Asia-Pacific Forum on Science Learning & Teaching.* 17(1).
- Irfan, N. M. (2016). Penerapan Levels of Inquiry dalam Pembelajaran IPA Fisika untuk Meningkatkan Keterampilan Abad ke-21 (4C's) pada Siswa SMP. Tesis UPI: Tidak Diterbitkan (POPBL) In Integrated STEM Education Program. *In Asia-Pacific Forum on Science Learning & Teaching.* 17(1).
- Lawson, H.W. (1985). Standards for Fats and Oil. The AVI Publishing company, Inc. Weat Port, Connecticut.
- J. Smith, C. (2012). "Improving the School-to-University Transition: Using a Problem-Based Approach to Teach Practical Skills Whilst Simultaneously Developing Students' Independent Study Skills". *Chem. Educ. Res. Pract.*, 2012, 13, 490-499.
- Jeffrey, B and Woods, P. (1997). The relevance of creative teaching: pupils' views in: A. Pollard, D. Thiessen & A. Filer (Eds) Children and their curriculum: the perspectives of primary and elementary children (London, Falmer), 15 33.
- Jerald, C. D. (2009). *Defining A 21st Century Education.* Center for Public education, 16.
- Kaharu, S. (2010). Penggunaan Hypermedia Untuk Meningkatkan Pemahaman Konsep dan Kemampuan berpikir kreatif Maha dalam Pembelajaran Rangkaian Listrik Arus.Tesis pada SPs UPI: Tidak diterbitkan
- Kamus Besar Bahasa Indonesia. (2003). *Departemen Pendidikan Nasional Edisi ke-3.* Jakarta: Balai Pustaka, Gramedia.
- Ketaren, S. (1986). Pengantar Teknologi Minyak dan Lemak Pangan. Jakarta: UI-Press.
- Ketaren, S. (2005). Pengantar Teknologi Minyak dari Lemak Pangan. Jakarta : UI Press.
- Koentjaraningrat. (1997). *Metode-metode Penelitian Kemasyarakatan.* Jakarta : Gramedia Alexandra: ASCD.
- Komalasari, K. (2010). *Pembelajaran Konstektual: Konsep & Aplikasi.* Bandung: Refika Aditama.
- Koolman, Jan. (2001). Biokimia. Jakarta: Erlangga.
- Lawson. H. W. (1985). *Standards for Fats & Oils.* Amerika: United Stated. Hal. 45-46
- Liliyansari dan Tawil, M. (2013). *Berpikir Kompleks dan Implementasinya Dalam Pembelajaran IPA.* Makasar: Badan Penerbit UNM.
- Liliyansari. (1996). *Pengembangan Model-model Pembelajaran Materi Subjek untuk Meningkatkan Keterampilan Berpikir Konseptual Tingkat Tinggi Calon Guru IPA.* Laporan Penelitian FPMIPA UPI. Tidak Dipublikasikan.

- Liliasari. (2013). *Berfikir Kompleks dan Implementasinya dalam Pembelajaran IPA*. Makasar: Badan Penerbit UNM
- Lucas, B. (2001). Creative teaching, teaching creativity and creative learning in: A. Craft, B. Jeffrey & M. Liebling (Eds) *Creativity in education* (London, Continuum) 35 44.
- Luthvitasari et. al, (2012). Implementasi Pembelajaran Fisika Berbasis Proyek Terhadap Keterampilan Berpikir Kritis, Berpikir Kreatif Dan Kemahiran Generik Sains. *JISE 1 (2) (2012), ISSN 2252-6412*.
- Lylod, M and M, G. Kowalske, M., G. (2015). "The Influence of PBL on Students' Self-Efficacy Beliefs in Chemistry". *Chem. Educ. Res. Practice.*, 2015, 16, 929.
- M. Mataka, L and M, G. Kowalske, M., G. (2015). "The Influence of PBL on Students' Self-Efficacy Beliefs in Chemistry". *Chem. Educ. Res. Pract.*, 2015, 16, 929.
- Margaret, E. Bell Gredler. 1991. *Belajar dan Membelajarkan*. Jakarta: Radja Grapindo Persada.
- Mayesky, Mary. (1990). *Creative Activities for Young Children*. USA: Delmat Publisher Inc.
- Menteri Pendidikan Nasional Republik Indonesia (Mendiknas RI). (2006). Lampiran Peraturan Kementerian Pendidikan Nasional Republik Indonesia (Permendiknas-RI) No 22 Tahun 2006 Tentang Standar Isi.
- Menteri Pendidikan dan Kebudayaan Republik Indonesia (Mendikbud RI). 2013. Lampiran Peraturan Kementerian Pendidikan dan Kebudayaan Republik Indonesia (Permendikbud-RI) Nomor 70 tahun 2013 tentang Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Kejuruan/Madrasah Aliyah Kejuruan.
- Minium, E. W. (1970). *Statistical Reasoning in Psychology and Education*. Oxford, England: John Wiley.
- Moleong, J.L. (2010). *Metode Penelitian Kualitatif*. Bandung: PT. Remaja Rosdakarya.
- Munandar, U. (2002). *Kreativitas dan Keberbakatan Strategi Mewujudkan Potensi Kreatif & Bakat*. Jakarta: PT. Gramedia Pustaka Utama.
- Munandar, U. 1985. *Mengembangkan Bakat Dan Kreativitas Anak Sekolah*. Jakarta: Gramedia.
- Munandar,U. (1999). *Mengembangkan Bakat dan Kreatifitas Anak Sekolah*. Petunjuk Bagi Guru dan Orang Tua.Jakarta: Gramedia.
- Murray, Price. (2004). Terapi Minyak Kelapa. Jakarta: Prestasi Pustaka.
- NACCCE. (1999). *All our Futures: Creativity, Culture and Education*. (London, DfEE).

- National Research Council. (1996). *National Science Education Standards*. Washington, DC. National Academy Press.
- National Research Council. (2011). *Successful K-12 STEM education: Identifying effective approaches in science, technology, engineering, and mathematics*. National Academies Press.
- Next Generation Science Standard (2011). A Framework for K-12 Science Education. [Online] www.nextgenscience.org/framework-k-12-science-education.
- Overton and Randles. (2015). “Beyond Problem-Based Learning: Using Dynamic PBL in Chemistry”. *Chem. Educ. Res. Pract.*, 2015, 16, 251.
- Priyono, Rangga. (2014) Pengaruh Rasio Campuran dan Ukuran Adsorben Bentonit dan Abu Sekam Padi Terhadap Kualitas Minyak Jelantah Hasil Adsorpsi. Skripsi: Politeknik Negeri Sriwijaya. Tidak diterbitkan.
- Randall and Holly. (2012). “Utilizing Problem-Based Learning in Qualitative Analysis Lab Experiments”. *J. Chem. Educ.* 2012, 89, 254–257
- Riduwan. (2011). *Skala Pengukuran Variabel-variabel Penelitian*. Bandung: Alfabeta.
- Rukmini, Ambar. (2007). Regenerasi Minyak Goreng Bekas dengan Arang Aktif Sekam Menekan Kerusakan Organ Tubuh. Yogyakarta: Seminar Nasional Teknologi Univ Widara Yogyakarta.
- Rusman. (2010). *Model –Model Pembelajaran mengembangkan Profesionalisme guru*. Jakarta: PT. Rajagrafindo Persada.
- Rusman. (2014). *Manajemen Kurikulum*. Jakarta: Rajagrafindo Persada.
- Rustaman, N.Y. (2005). Strategi Belajar Mengajar Biologi. Malang: UM Press.
- Arief, S. (2002). *Media Pembelajaran dan Proses Belajar Mengajar, Pengertian Pengembangan dan Pemanfaatannya*. Jakarta: Raja Grafindo Persada.
- Sahin, A., Gulacar, O., & Stuessy, C. (2015). High School Students’ Perceptions of the Effects of International Science Olympiad on Their STEM Career Aspirations and Twenty-First Century Skill Development. *Research in Science Education*, 45(6), 785-805.
- SII. 1972. *Mutu dan Cara Uji Minyak Goreng*. Departemen Perindustrian Republik Indonesia, Jakarta.
- Silberman, Mel. (2002). *Active Learning: 101 Strategi Pembelajaran Aktif*. Cetakan 2. Diterbitkan Yappendis. Bumimedia: Yogyakarta.
- Silva, E. (2009). *Measuring Skills For 21st-Century Learning*. The Phi Delta Kappan 90.9: 630-634.
- Sirait, J. (2012). Pendekatan Pembelajaran Konflik Kognitif Untuk Meningkatkan Penguasaan Konsep Siswa SMA Pada Topik Suhu Dan Kalor. *Jurnal Pendidikan Matematika Dan IPA*. Jurnal Universitas Tanjungpura.

- Slameto. (2003). *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.
- Sri, Raharjo. (2006). Kerusakan Oksidatif Pada Makanan. Yogyakarta: Gajah Mada University Press.
- Sudarmadji, Slamet dan Suhardi, Bambang Haryono. (1989). Analisa Bahan Pangan dan Pertanian. Yogyakarta: PAU Pangan dan Gizi UGM.
- Sugiyono. (2010). *Metode penelitian pendidikan kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.
- Suhardjo. 1998. Universitas Indonesia, UI PRESS pangan dan pertanian. Jakarta.
- Sukardi. (2008). *Metodologi Penelitian Pendidikan, Kompetensi dan Praktiknya*. Jakarta: PT Bumiaksara.
- Swern, D., Editor. 1982. *Bailey's Industrial Oil and Fat Products*. Ed ke-4. Volume ke-2. New York: John Wiley & Sons.
- Tan, O. S. (2003). *Problem-based Learning Innovation : Using Problems to Power Learning in 21 Century*. Singapore: Thomson Learning.
- Tan, O.S. (2004). *Enhancing Thinking Through Problem-Based Learning Approaches*. Shenton: Cengage Learning.
- Tan, O. S. (2009) *Problem Based Learning and Creativity*. Singapura : Cengage Learning.
- Tarhan, L dan Sesen, BA. (2013). Problem Based Learning in Acids and Bases: Learning Achievements and Students Beliefs. *Journal Of Baltic Science Education*. Vol. 12, No. 5, 565-578.
- Tarhan, L., & Ayyildiz, Y. (2014). The Views of Undergraduates about Problem-Based Learning Applications in a Biochemistry Course. *Journal of Biological Education*. 49 (2), 116-126.
- Tarhan, L., Ayar-Kayali, H., Urek, R. O., & Acar, B. (2008). Problem-based learning in 9th grade chemistry class: 'Intermolecular forces'. *Research in Science Education*, 38(3), 285-300.
- Temel, S. (2014). The Effects of Problem-Based Learning on Pre-Service Teachers' Critical Thinking Dispositions and Perceptions of Problem-Solving Ability. *South African Journal Of Education*, 34(1), 1-20.
- Thoifuri. (2008). *Menjadi Guru Inisiator*. Semarang: RASAIL.
- Torrance, E. P. (1963). *Education and The Creative Potential*. Minneapolis, MN: The University of Minnesota Press.
- Torrance, E. P. (1995). *Why Fly: A Philosophy of Creativity*. Norwood, NJ: Ablex Publishing Corporation.

- Tosun, C and Senocak, E. (2013). "The Effects of Problem-Based Learning on Metacognitive Awareness and Attitudes toward Chemistry of Prospective Teachers with Different Academic Backgrounds". *Australian Journal of Teacher Education.*, 2013, 38(3).
- Tosun, C and Taskesenligil, Y. (2013). "The Effect of Problem-Based Learning on Undergraduate Students' Learning About Solutions and Their Physical Properties and Scientific Processing Skills". *Chem. Educ. Res. Pract.*, 2013, 14, 36.
- Tunkham, P., Donpudsa, S., & Dornbundit, P. (2016). Development of STEM Activities in Chemistry on "Protein" to Enhance 21st Century Learning Skills for Senior High School Students. *Silpakorn University Journal of Social Sciences, Humanities, and Arts*, 16(3), 217-234.
- Walsh A. (2011). *The Tutor In Problem-Based Learning: A Novice's Guide*. Hamilton: McMaster University, Faculty of Health Sciences. (10-13).
- Webb, N.M., Shavelson, R.J., & Haertel, E.H. (2006). Reliability Coefecient and Generalizability Theory. *Elsevier: Handbook of Statistic*, 26, hlm. 1-44.
- Widayat, dkk. (2006). Optimasi Proses Adsorbsi Minyak Goreng Bekas dengan Adsorbent Zeolit Alam: Studi Pengurangan Bilangan Asam. Semarang: Jurnal Teknik Kimia Fakultas Teknik Universitas Diponegoro.
- Widoyoko, Eko. (2009). *Evaluasi Program Pembelajaran*. Yogyakarta: Pustaka Belajar.
- Wiersma, W & Jurs, G.S. (2009). *Research Methods in Education : An Introduction*. Pearson: Boston.
- Wilson, A. (Ed.) (2005). Creativity in primary education: Theory and practice (achieving QTS cross-curricular strand). Exeter: Learning Matters Ltd.
- Winarno, F. G. (1997). *Kimia Pangan dan Gizi*. Jakarta: Penerbit Gramedia. Hal. 86-93.
- Winarno. (1999). Minyak Goreng Dalam Menu Masyarakat. Jakarta: Balai Pustaka.
- Winarno. (2004). Kimia Pangan dan Gizi. Jakarta: PT. Gramedia Pustaka Utama.
- Winkle, L. J. V., Burdick, P., Bjork, B. C., Chandar, N., Green, J. M., Lynch, S. M., Salle, S. L., Viselli S. M., Robson, C. (2014). Critical Thinking and Reflection on Community Service for A Medical Biochemistry Course Raise Students' Empathy, Patient-Centered Orientation, and Examination Scores. *Medical Science Education*, 24, 279-290.
- Winkle, L. J. V., Cornell, S., Fjortoft, N., Bjork, B. C., Chandar, N., Green, J. M., Salle, S. L., Viselli, S. M. Burdick, P., & Lynch, S. M. (2013). Critical Thinking and Reflection Exercises in A Biochemistry Course to Improve Prospective Health Professions Students' Attitudes toward Physician-Pharmacist Collaboration. *American Journal of Pharmaceutical Education*, 77 (8), 1-9.

Wood, D.F. (2003). *ABC of Learning and Teaching in Medicine: Problem-Based Learning*. BMJ v326.

Yoon, A., Woo, A.J., Treagust, D., dan Chandraseragan, A. (2012). The Efficacy of Problem-Based Learning in an Analytical Laboratory Course for Pre-Chemistry Teachers. *International Journal of Science Education*. 1-24.