

DAFTAR PUSTAKA

- AAAS. (1993). Benchmarks for Science Literacy, A Project 2061 report. *Oxford University Press.*, 1–4.
- Adema, F. (2011). Notes on Malesian Fabaceae (Leguminosae-Papilionoideae) 15. Notes on Indigofera. *Blumea: Journal of Plant Taxonomy and Plant Geography*, 270–272.
- Aguoru, C. U., & Okoli, B. E. (2012). Comparative stem and petiole anatomy of West African species of Momordica L (Cucurbitaceae). *African Journal of Plant Science*, 6(December), 403–409. <https://doi.org/10.5897/AJPS11.309>
- Agustina, P., & Saputra, A. (2016). Analisis Keterampilan Proses Sains (KPS) Dasar Mahasiswa Calon Guru Biologi Pada Matakuliah Anatomi Tumbuhan (Studi Kasus Mahasiswa Prodi P. Biologi Fkip UMS Tahun Ajaran 2015/2016). In *Seminar Nasional Pendidikan Sains* (pp. 71–78).
- Akani, O. (2015). Levels of possession of science process skills by final year students of colleges of education in south-eastern states of nigeria. *Journal of Education and Practice*, 6(27), 94–102.
- Alkan, F. (2016). Experiential Learning : Its Effects on Achievement and Scientific Process Skills. *Journal of Turkish Science Education*, (June). <https://doi.org/10.12973/tused.10164a>
- Ango, M. L. (2002). Mastery of Science Process Skills and Their Effective Use in the Teaching of Science: An Educology of Science Education in the Nigerian Context. *International Journal of Educology*, 16(1), 17–26. <https://doi.org/10.1016/j.jcyt.2013.01.017>
- Astuti, Y., & Suciati, R. (2017). Profil Kemampuan Mahasiswa Calon Guru Biologi. *Jurnal Pendidikan Indonesia*, 6(1), 115–124.
- Asyhar, R. (2012). *Kreatif Mengembangkan Media Pembelajaran*. Jakarta: Referensi.
- Aydogdu, Bulent, Buldur, S., & Kartal, S. (2013). The Effect of Open-ended Science Experiments based on Scenarios on the Science Process Skills of the Pre-Service Teachers. *Procedia - Social and Behavioral Sciences*, 93, 1162–1168. <https://doi.org/10.1016/j.sbspro.2013.10.008>

- Aydogdu, Bülent, Tatar, N., Yildiz, E., & Buldur, S. (2012). The Science Process Skills Scale Development for Elementary School Students. *Journal of Theoretical Educational Science*, 5(53), 292–311. Retrieved from <http://www.keg.aku.edu.tr>
- Branch, R. M. (2009). *Instructional Design : The ADDIE Approach*.
- Brotherton, P. N., & Preece, P. F. W. (2006). Science Process Skills: their nature and interrelationships. *Research in Science & Technological Educati*, (February 2015), 37–41. <https://doi.org/10.1080/0263514950130101>
- Brownell, S. E., Kloser, M. J., Fukami, T., & Shavelson, R. (2012). Undergraduate Biology Lab Authentic Research-Based Courses Traditionally Based “Cookbook” and Courses: Comparing the Impact of on Student Lab Experiences. *Journal of College Science Teaching*, 41(No.4).
- Burns, J. C., Okey, J. R., & Wise, K. C. (1985). Development of an integrated process skill test: TIPS II. *Journal of Research in Science Teaching*, 22(2), 169–177. <https://doi.org/10.1002/tea.3660220208>
- Chabalengula, V. M., Mumba, F., & Mbewe, S. (2012). How Pre-service Teachers ' Understand and Perform Science. *Eurasia Journal of Mathematics, Science & Technology Education*, 8223. <https://doi.org/10.12973/eurasia.2012.832a>
- Clara, A. Y. (2018). Analisis Keterampilan Proses Sains Mahasiswa Calon Guru Biologi FKIP UMS Pada Praktikum Anatomi Hewan Tahun Akademik 2017/2018 Abstrak. *Skripsi*.
- Collis, M., Gibson, A., Hughes, I., Sayers, G., & Todd, M. (2016). The Student View of 1st year Laboratory Work in the Biosciences — Score Gamma ? The Student View of 1st year Laboratory Work in the. *Bioscience Education*, 7860(March). <https://doi.org/10.3108/beej.11.2>
- Dickison, W. C. (2000). *Integrative Plant Anatomy*. Elsevier, Amsterdam.
- Dirks, C., & Cunningham, M. (2009). Enhancing Diversity in Science : Is Teaching Science Process Skills the Answer ? *CBE—Life Sciences Education*, 5, 218–226. <https://doi.org/10.1187/cbe.05>
- Endress, P. K., Baas, P., & Gregory, M. (2000). *Systematic Plant Morphology and Anatomy : 50 Years of Progress* Author (s): Peter K . Endress , Pieter Baas ,

- Mary Gregory Reviewed work (s): Published by : International Association for Plant Taxonomy (IAPT) Stable URL : <http://www.jstor.org/stable/>. *Taxon*, 49(3), 401–434.
- Erkol, S., & Ugulu, I. (2014). Examining biology teachers candidates' scientific process skill levels and comparing these levels in terms of various variables. *Procedia - Social and Behavioral Sciences*, 116, 4742–4747. <https://doi.org/10.1016/j.sbspro.2014.01.1019>
- Fadllan, A. (2011). Strategi Pengembangan Science Generic Skills (Sgs) Calon Guru Fisika Melalui Model Pembelajaran Group Investigation Pada Mata Kuliah Praktikum. *Jurnal Phenomenon*, 1, 31–44.
- Fajarwati, L. P., Kiswardianta, R. B., & Pujiati. (2018). Penyusunan Modul Mikrobiologi Berbasis Penelitian Purifikasi Dan Uji Aktivitas Enzim Selulase Dari Kapang *Trichoderma viride*. *Prosiding Seminar Nasional SIMBIOSIS III*, (September), 217–224.
- Faruk, Ö., & Lu, F. Ğ. (2012). Comparing science process skills of prospective science teachers : A cross-sectional study, 13(1), 1–21.
- Fitriyati, U., Mufti, N., & Lestari, U. (2015). Pengembangan Modul Berbasis Riset Pada Matakuliah Bioteknologi. *Jurnal Pendidikan Sains*, 3(3), 118–129.
- Gao, X.-F., & Schrire, B. (2009). Three New Species of Indigofera (Leguminosae) from China. *Novon: A Journal for Botanical Nomenclature*, 19(2), 159–163. <https://doi.org/10.3417/2008105>
- Gezer, S. U. (2015). A Case Study on Preservice Science Teachers' Laboratory Usage Self Efficacy and Scientific Process Skills. *Procedia - Social and Behavioral Sciences*, 174, 1158–1165. <https://doi.org/10.1016/j.sbspro.2015.01.732>
- Ghosh, B., Mallick, T., Ghosh, A., Datta, A. K., & Pramanik, A. (2016). Taxonomical, Anatomical, Cytological And Palynological Assessment Of A Germplasm Of Indigofera Tinctoria L. (Fabaceae): An Ayurvedic Plant. *Int. J. Res. Ayurveda Pharm*, 7(Suppl 4), 90–95. <https://doi.org/10.7897/2277-4343.075227>
- Hafizul, F., Yusrizal, & Saminan. (2016). Pengembangan Modul Praktikum

- Berbasis Inkuiri Untuk Meningkatkan Keterampilan Proses Sains dan Hasil Belajar Siswa Kelas X di SMA Negeri 1 Bukit Bener Meriah. *Jurnal Pendidikan Sains Indonesia*, 04(02), 124–129.
- Hamdiyati, Y., & Kusnadi, M. (2007). Profil Keterampilan Proses Sains Mahasiswa Melalui Pembelajaran Berbasis Kerja Ilmiah Pada Matakuliah Mikrobiologi. *Jurnal Pengajaran Matematika Dan Ilmu Pengetahuan Alam*, 9(2), 36. <https://doi.org/10.18269/jpmipa.v9i2.324>
- Handayani. (2014). Pengembangan Modul Pembelajaran Berbasis Pengujian di Laboratorium sebagai Upaya Peningkatan Kompetensi. *Makalah Disajikan Dalam Prosiding Konvensi Nasional Asosiasi Pendidikan Teknologi Dan Kejuruan (APTEKINDO) Ke 7 FPTK Universitas Pendidikan Indonesia, Bandung, 12–15 November*.
- Handayani, P. A., & Mualimin, A. A. (2013). Pewarna Alami Batik dari Tanaman Nila (Indigofera) dengan Katalis Asam. *Issn 2303-0623*, (Susanto 1973), 1–6.
- Harlen, W. (1999). Purposes and Procedures for Assessing Science Process Skills. *Assessment in Education: Principles, Policy & Practice*, 6(1), 129–144. <https://doi.org/10.1080/09695949993044>
- Hewitt, K. M., Kayes, L. J., Hubert, D., & Chouinard, A. (2014). Investigating Issues in the Laboratory : The Behavior of Red Swamp Crayfish as an Invasive Species Investigating Issues in the Laboratory : The Behavior of Red Swamp Crayfish as an. *National Association of Biology Teachers*, 76(9). <https://doi.org/10.1525/abt.2014.76.9.7>
- Howard, D. R., & Miskowski, J. A. (2005). Using a Module-based Laboratory To Incorporate Inquiry into a Large Cell Biology Course. *Cell Biology Education*, 4(3), 249–260. <https://doi.org/10.1187/cbe.04-09-0052>
- Hunt, L., Koenders, A., & Gynnild, V. (2012). Assessment & Evaluation in Higher Education Assessing practical laboratory skills in undergraduate molecular biology courses. *Assessment & Evaluation in Higher Education*, 37(October 2014), 37–41. <https://doi.org/10.1080/02602938.2011.576313>
- Huppert, J., Lomask, S. M., & Lazarowitz, R. (2002). Computer simulations in the

- high school: students' cognitive stages, science process skills and academic achievement in microbiology. *International Journal of Science Education*, 24(8), 803–821. <https://doi.org/10.1080/09500690110049150>
- Irwanto, Rohaeti, E., & Prodjosantoso, A. K. (2018). Undergraduate Students' Science Process Skills In Terms Of Some Variables : A Perspective From Indonesia. *Journal of Baltic Science Education*, 17(5), 751–764.
- Johansen, D. A. (1940). *Plant-Microtechnique* (First). New York and London: McGraw-Hill Book Company, Inc.
- Judd, W. S., Campbell, C. S., Kellogg, E. A., Stevens, P. F., & Donoghue, M. J. (2004). Plant Systematics: A Phylogenetic Approach, 2nd ed. *Syst. Biol*, 53(3), 517–518. <https://doi.org/10.1080/10635150490445878>
- Karamustafaoğlu, S. (2011). Improving the Science Process Skills Ability of Prospective Science Teachers Using I Diagrams. *Eurasian Journal of Physics and Chemistry Education*, 3(1), 26–38. <https://doi.org/10.1007/s10961-017-9639-z>
- Karsli, F., Sahin, C., & Ayas, A. (2009). Determining science teachers' ideas about the science process skills: a case study. *Procedia - Social and Behavioral Sciences*, 1(1), 890–895. <https://doi.org/10.1016/j.sbspro.2009.01.158>
- Keil, C., Haney, J., & Zoffel, J. (2009). Improvements in Student Achievement and Science Process Skills Using Environmental Health Science Problem-Based Learning Curricula. *Electronic Journal of Science Education*, 13(1), 1–18. <https://doi.org/10.1016/j.sbspro.2009.01.014>
- Lu, H. F., Jiang, B., Shen, Z. G., Shen, J. B., Peng, Q. F., & Cheng, C. G. (2008). Comparative leaf anatomy , FTIR discrimination and biogeographical analysis of *Camellia* section *Tuberculata* (Theaceae) with a discussion of its taxonomic treatments. *Plant Syst Evol*, 274, 223–235. <https://doi.org/10.1007/s00606-008-0047-6>
- Maknun, D., Surtikanti, R. R. H. K., Munandar, A., & Subahar, T. S. (2012). Keterampilan esensial dan kompetensi motorik laboratorium mahasiswa calon guru biologi dalam kegiatan praktikum ekologi. *Jurnal Pendidikan IPA Indonesia*, 1(2), 141–148. <https://doi.org/10.15294/jpii.v1i2.2131>

- Mbagwu, F. N., & Edeoga, H. o. (2006). Leaf Anatomy of Some Nigerian Species of *Vigna Savi* (Leguminosae-Papilionoideae). *Agricultural Journal*, 5–6.
- Millar, R., & Driver, R. (2008). *Studies in Science Education. Studies in Science Education* (Vol. 1). <https://doi.org/10.1080/03057267408559816>
- Minareci, E., Pekönür, S., Özdemir, C., Çiçek, M., & Kocabaş, O. (2019). Anatomical Investigation of Four Taxa of *Scutellaria Albida* L. (Lamiaceae). *Bangladesh J. Plant Taxon.*, 26(1), 97–106.
- Monhardt, L., & Monhardt, R. (2006). Creating a Context for the Learning of Science Process Skills Through Picture Books, 34(1), 67–71. <https://doi.org/10.1007/s10643-006-0108-9>
- Monica, K. M. M. (2005). Development and validation of a test of integrated science process skills. *World Conference on Learning, Teaching and Administration Papers*, 9(7), 1007–1027. <https://doi.org/10.1016/j.sbspro.2010.12.127>
- Muzzazinah. (2016). Etnobotani Indigofera di Indonesia Ethnobotany. *Bioedukasi, Volume 9, Nomor 2, Halaman 7-13*, 9, 7–13.
- Muzzazinah, Chikmawati, T., & Ariyanti, N. S. (2016). Correlation of Morphological Characteristics with the Presence of Indicant in *Indigofera* sp . Dyestuff. *Sains Malaysiana*, 45(6), 883–890.
- Muzzazinah, Chikmawati, T., Rifai, M. A., & Ariyanti, N. S. (2019). Genetic Diversity Of The Dye-Producing Javanese Tom *Indigofera Tinctoria* L. From Three Indonesian Islands Based On Simple Sequence Repeatmarkers. *Pak. J. Bot.*, 51(3), 903–908. <https://doi.org/10.30848/PJB2019>
- Noman, A., Ali, Q., Hameed, M., Mehmood, T., & Iftikhar, T. (2014). Comparison Of Leaf Anatomical Characteristics Of *Hibiscus Rosa-Sinensis* Grown In Faisalabad Region. *Pak. J. Bot*, 46(1), 199–206.
- Nwachukwu, C., Edeoga, H., & Kemka-Evans, C. . (2017). Stem anatomical studies of some species of *Indigofera*. *International Research Journal of Plant and Crop Sciences*, 3(1), 24–25.
- Nwachukwu, & Mbagwu, F. N. (2006). Anatomical Studies on the Petiole of Some Species of *Indigofera*. *Agricultural Journal*, 1(2), 55–58.

- Nwachukwu, & Mbagwu, F. N. (2007). 154Leaf Anatomy of Eight Species of Indigofera L. *Agricultural Journal*, 2 (1), 149–154.
- Nworgu, L. N., & Otum, V. V. (2013). Effect of Guided Inquiry with Analogy Instructional Strategy on Students Acquisition of Science Process Skills. *Journal of Education and Practice* , 4(27), 35–40.
- Ongowo, R. O., & Indoshi, F. C. (2013). Science Process Skills in the Kenya Certificate of Secondary Education Biology Practical Examinations. *Procedia - Social and Behavioral Sciences*, 4(11), 713–717. <https://doi.org/10.4236/ce.2013.411101>
- Opataye, J. A. (2012). Developing and Assessing Science and Technology Process Skills (STPSs) in Nigerian Universal Basic Education Environment. *Journal of Educational and Social Research*, 2(8), 34–42. <https://doi.org/10.5901/jesr.2012.v2n8p34>
- Özgelen, S. (2012). Students' science process skills within a cognitive domain framework. *Eurasia Journal of Mathematics, Science and Technology Education*, 8(4), 283–292. <https://doi.org/10.12973/eurasia.2012.846a>
- Padilla, M. J. (1990). The Science Process Skills. *Research Matters - to the Science Teacher*, March(9802), 1–4. Retrieved from <http://web.archive.org/web/20060515003342/http://www.educ.sfu.ca:80/nars/bsite/publications/research/Metacogn.html>
- Parmin, & Peniati, E. (2012). Pengembangan Modul Mata kuliah Strategi Belajar Mengajar IPA Berbasis Hasil Penelitian Pembelajaran. *Jurnal Pendidikan IPA Indonesia*, 1(1), 8–15. <https://doi.org/10.15294/jpii.v1i1.2006>
- Peng, Y. K. (2007). *Tahap Pencapaian Kemahiran Proses Sains Dalam Kalangan Guru Pelatih. Tesis. Malaysia: USM.*
- Peteroy-kelly, M. (2010). Online Pre-laboratory Modules Enhance Introductory Biology Students' Preparedness and Performance in the Laboratory, (May), 5–13. <https://doi.org/10.1128/jmbe.v11.i1.130>
- Phang, F. A., & Tahir, N. A. (2012). Scientific Skills among Pre-Service Science Teachers at Universiti Teknologi Malaysia. *Procedia - Social and Behavioral Sciences*, 56(Ictthe), 307–313. <https://doi.org/10.1016/j.sbspro.2012.09.659>

- Pilarz, M. (2013). Implementation of a Research-Based Lab Module in a High School Chemistry Curriculum : A Study of Classroom Dynamics.
- Rohmani, M., Amin, M., Lestari, U., Pendidikan, P., Universitas, B., Malang, N., & Timur, J. (2017). Analisis Kebutuhan Bahan Ajar Berbasis Penelitian Materi Bioteknologi Bidang Kedokteran Untuk Mahasiswa S1 Pendidikan Biologi Universitas Negeri Malang Berdasarkan Model Pengembangan ADDIE. *Pros. Semnas Pend. IPA Pascasarjana UM*, 2, 496–501.
- Saat, R. M. (2004). The acquisition of integrated science process skills in a web-based learning environment. *Research in Science & Technological Education*, 22(1), 23–40. <https://doi.org/10.1080/0263514042000187520>
- Schrire, B. D., Lavin, M., Barker, N. P., & Forest, F. (2009). Phylogeny of the tribe Indigofereae (Leguminosae-Papilionoideae): Geographically structured more in succulent-rich and temperate settings than in grass-rich environments. *American Journal of Botany*, 96(4), 816–852. <https://doi.org/10.3732/ajb.0800185>
- Shethi, K. J., Rashid, P., Begum, M., & Rahman, M. O. (2019). Morphoanatomical Profile of Five Species of Piper L. From Bangladesh and Its Taxonomic Significance. *Bangladesh J. Plant Taxon*, 26(1), 57–68.
- Silay, I., & Çelik, P. (2013). Evaluation of Scientific Process Skills of Teacher Candidates. *Procedia - Social and Behavioral Sciences*, 106, 1122–1130. <https://doi.org/10.1016/j.sbspro.2013.12.126>
- Simpson, M. G. (2006). *Plant Systematics*. Academic Press.
- Siritunga, D., Montero-Rojas, M., Carrero, K., Toro, G., Vélez, A., & Carrero-Martínez, F. A. (2011). Culturally relevant inquiry-based laboratory module implementations in upper-division genetics and cell biology teaching laboratories. *CBE Life Sciences Education*, 10(3), 287–297. <https://doi.org/10.1187/cbe.11-04-0035>
- Sukardiyono, & Wardani, Y. R. (2013). Pengembangan Modul Fisika Berbasis Kerja Laboratorium Dengan Pendekatan Science Process Skills Untuk Meningkatkan Hasil Belajar Fisika Development of Physics Module Laboratory Work Based By Science, 2(1), 185–195.

- Sun, D. M., Yang, Q., Song, J. Z., & Chen, Z. X. (2006). Teaching the Process of Science: Faculty Perceptions and an Effective Methodology. *Linchan Huaxue Yu Gongye/Chemistry and Industry of Forest Products*, 26(2), 79–82. <https://doi.org/10.1187/cbe.10>
- Suryani, A., Lumbantoruan, A., Dewi, U. P., Samosir, S. C., Sari, N., Putra, S., ... Dewi, U. P. (2019). Science Process Skills: Basic and Integrated in Equilibrium Practicum. *International Journal of Scientific & Technology Research/Scientific & Technology Research*, 8(12), 1421–1428.
- Susanti, R., Anwar, Y., & Ermayanti, E. (2018). Profile of science process skills of Preservice Biology Teacher in General Biology Course. *Journal of Physics: Conference Series*, 1006(1). <https://doi.org/10.1088/1742-6596/1006/1/012003>
- Tahir, J. (2017). An Analysis of Science Process Skills of Pre Service Biology Teachers in Solving Plants Physiology Problems. *International Conference on Eduucation*, (September).
- Tamilselvi, N., Dhamotharan, R., Krishnamoorthy, P., & Shivakumar. (2011). Anatomical studies of *Indigofera aspalathoides* Vahl (Fabaceae). *Journal of Chemical and Pharmaceutical Research*, 3(2), 738–746.
- Turiman, P., Omar, J., Daud, A. M., & Osman, K. (2012). Fostering the 21st Century Skills through Scientific Literacy and Science Process Skills. *Procedia - Social and Behavioral Sciences*, 59, 110–116. <https://doi.org/10.1016/j.sbspro.2012.09.253>
- Wahyuni, H., Kiswardianta, R. B., & Yuhanna, W. L. (2018). Pengembangan modul berbasis riset pada mata kuliah anatomi tumbuhan, (September), 36–43.
- Wibowo, P. H., Indrowati, M., & Sugiharto, B. (2013). Pengaruh Penggunaan Modul Hasil Penelitian Bentos Pada Pokok Bahasan Pencemaran Lingkungan Terhadap Keterampilan Proses Sains Siswa Kelas X SMA Negeri 1 Mojolaban Tahun Pelajaran 2011/2012. *Pendidikan Biologi*, 5, 70–80.
- Widiyawati, Y., & Sari, D. S. (2019). Correlation Between Pre-Service Science Teacher Laboratory Self-Efficacy And Science Process Skills In Laboratory

- Activities. *Jurnal Ilmiah Pendidikan MIPA*, 9(3), 245–256.
- Xinfen, G., & Schrire, B. D. (2010). 63. *Indigofera Linnaeus*, Sp. Pl. 2: 751. 1753. *Flora of China*, 137–164.
- Yahya, I. (2010). Manajemen Empat Langkah dalam Pengembangan Bahan Ajar Berbasis Riset : Sebuah Pengalaman dari Perkuliahan Akustik di. *World*, 1–6. Retrieved from http://iwany.staff.uns.ac.id/files/2010/10/research-enhanced-teaching_okt2010.pdf
- Yumuşak, G. K. (2016). Science Process Skills in Science Curricula Applied in Turkey. *Journal of Education and Practice*, 7(20), 94–98.
- Zeidan, A. H., & Jayosi, M. R. (2015). Science Process Skills and Attitudes toward Science among Palestinian Secondary School Students. *World Journal of Education*, 5(1), 13–24. <https://doi.org/10.5430/wje.v5n1p13>

