

## DAFTAR PUSTAKA

- Aeni, N., Prihatin, T., & Utanto, Y. (2017). Pengembangan model *blended learning* berbasis masalah pada mata pelajaran sistem komputer. *Innovative journal of curriculum and educational technology*, 6(2), 27–38. <https://doi.org/10.15294/ijcet.v6i2.15642>
- Afisha, H. M., Jalmo, T., dan Maulina, D. (2015) Pengaruh model *blended problem based learning* terhadap kemampuan berargumentasi dan hasil belajar siswa. Bandar Lampung.
- Agusni, H.P., Abdurrahman., & Wahyudi, I. (2016). Pengaruh *skill argumentasi* menggunakan model *problem based learning* terhadap hasil belajar siswa. *Journal of research*.
- Aldahmash, A. H., & Omar, S. H. (2021). *Analysis of activities included in saudi Arabian chemistry textbooks for the inclusion of argumentation-driven inquiry skills*. *Studies in educational evaluation*, 68(july 2020), 100968. <https://doi.org/10.1016/j.stueduc.2020.100968>
- Alfi, C., Sumarmi, S., & Amirudin, A. (2016). Pengaruh pembelajaran geografi berbasis masalah dengan *blended learning* terhadap kemampuan berpikir kritis siswa SMA. *Jurnal pendidikan - teori, penelitian, dan pengembangan*, vol. 1(4), 597–602. retrieved from <http://journal.um.ac.id/index.php/jptpp/article/view/6203>
- Alonso, F., López, G., Manrique, D., & Viñes, J. M. (2005). *An instructional model for web-based e-learning education with a blended learning process approach*. *british journal of educational technology*, 36(2), 217–235. <https://doi.org/10.1111/j.1467-8535.2005.00454.x>
- Alsalhi, N. R., Eltahir, M. E., & Al-Qatawneh, S. S. (2019). *The effect of blended learning on the achievement of ninth grade students in science and their attitudes towards its use*. *Heliyon*, 5(9), e02424. <https://doi.org/10.1016/j.heliyon.2019.e02424>
- Amir, M. T. (2009). *Inovasi pendidikan melalui problem based learning* (1st ed.). jakarta: kencana.
- Amelia, S. D., Suciati, & Maridi. (2017). Profil keterampilan argumentasi siswa SMA Negeri 5 Surakarta. *Seminar nasional pendidikan sains ii uksw*, (2006), 163–168.
- Astuti, T, P., Sulistyono., & Hindriana, A.F. (2019). pembelajaran *blended learning* berbasis PBL untuk meningkatkan penalaran dan kualitas argumentasi siswa, 10.25134/edubiologica.v6i1.2364
- Auster, C. J. (2016). *Blended learning as a potentially winning combination of face-to-face and online learning: an exploratory study*. *Teaching sociology*, 44(1), 39–48. <https://doi.org/10.1177/0092055x15619217>

- Balci, C., & Yenice, N. (2015). *Effects of the scientific argumentation based learning process on teaching the unit of cell division and inheritance to eighth grade students*. *Journal of education in science, environment and health*, 2(1), 67. <https://doi.org/10.21891/jeseh.28130>
- Bouhnik, D., & Deshen, M. (2014). *Whatsapp goes to school: mobile instant messaging between teachers and students*. *Journal of information technology education: research*, 13, 217–231. <https://doi.org/10.28945/2051>
- Choden, T., & Kijkuakul, S. (2020). *Blending problem based learning with Scientific argumentation to enhance students' understanding of basic genetics*. *International journal of instruction*, 13(1), 445–462. <https://doi.org/10.29333/iji.2020.13129a>
- Church, K., & De Oliveira, R. (2013). *What's up with whatsapp? Comparing mobile instant messaging behaviors with traditional sms*. *Mobilehci 2013 - proceedings of the 15th international conference on human-computer interaction with mobile devices and services*, 352–361. <https://doi.org/10.1145/2493190.2493225>
- Craig-Hare, J., Ault, M., & Rowland, A. (2017). *The effect of socioscientific topics on discourse within an online game designed to engage middle school students in scientific argumentation*. *Journal of education in science, environment and health*, 110–110. <https://doi.org/10.21891/jeseh.325783>
- Deschacht, N., & Goeman, K. (2015). *The effect of blended learning on course persistence and performance of adult learners: a difference-in-differences analysis*. *Computers and education*, 87, 83–89. <https://doi.org/10.1016/j.compedu.2015.03.020>
- Donnelly, R. (2006). *Blended problem-based learning for teacher education: lessons learnt*. *Learning, media and technology*, 31(2), 93–116. <https://doi.org/10.1080/17439880600756621>
- Donnelly, R. (2010). *harmonizing technology with interaction in blended problem-based learning*. *Computers and education*, 54(2), 350–359. <https://doi.org/10.1016/j.compedu.2009.08.012>
- Dwiyogo, W. D. (2018). Pembelajaran berbasis *blended learning* (1st ed.). Depok: Rajawali pers.
- Effendi, H., & Hendriyani, Y. (2020). The conceptual and hypothetical model of interactive blended problem based learning. *JPI (jurnal pendidikan Indonesia)*, 8(2), 285. <https://doi.org/10.23887/jpi-undiksha.v8i2.24162>
- Ellis, R. A., Pardo, A., & Han, F. (2016). quality in blended learning environments – significant differences in how students approach learning collaborations. *Computers and education*, 102(July), 90–102. <https://doi.org/10.1016/j.compedu.2016.07.006>
- Fathurrohman, M. (2017). *Model-model pembelajaran inovatif* (1st ed.; n. hidayah,

- ed.). jogjakarta.
- Fisher, R., Perényi, Á., & Birdthistle, N. (2018). *The positive relationship between flipped and blended learning and student engagement, performance and satisfaction. Active learning in higher education.* <https://doi.org/10.1177/1469787418801702>
- Florian, T. P., & Zimmerman, J. P. (2015). *Understanding by design , moodle , and blended learning : a secondary school case study. Merlot journal of online learning and teaching,* 11(1), 120–128
- Han, J., Kim, K. H., Rhee, W., & Cho, Y. H. (2021). *Learning analytics dashboards for adaptive support in face-to-face collaborative argumentation. Computers and education,* 163(september 2020), 104041. <https://doi.org/10.1016/j.compedu.2020.104041>
- Handayani, S., & Anwar, Y. (2017). Penerapan model pembelajaran circ dipadukan advance organizer terhadap keterampilan menulis argumentasi peserta didik kelas X di MAN 2 Palembang pada materi ekosistem. (2013), 560–570.
- Hartanto, AAT. 2010. "Panduan Aplikasi Smartphone", halaman 100 Gramedia Pustaka Utama. ISBN 100-6762-33-5.
- Hernawan, E. (2019). *Pengantar statistika untuk penelitian pendidikan.* Tasikmalaya: LPPM Universitas Siliwangi.
- Hikmawati, V. Y., & Suryaningsih, Y. (2020). *Implementing blended-problem based learning through google classroom in biology learning. Jpbi (jurnal pendidikan biologi Indonesia),* 6(2), 217–224. <https://doi.org/10.22219/jpbi.v6i2.12112>
- Indrawati, K. A. D., & Febrilia, B. R. A. (2019). Pola argumentasi siswa dalam menyelesaikan soal sistem persamaan linear tiga variabel (SPLTV). Fibonacci: jurnal pendidikan matematika dan matematika, 5(2), 141. <https://doi.org/10.24853/fbc.5.2.141-154>
- Katherine, M. K. Dan Krajcik. J. 2006. *Supporting students' construction of scientific explanation through generic versus contextspecific written scaffolds. American educational research association. San francisco.*
- Kofar, G. (2016). *A study of efl instructors perceptions of blended learning. Procedia - social and behavioral sciences,* 232(April), 736–744. <https://doi.org/10.1016/j.sbspro.2016.10.100>
- Kuncoro, Tri, Antelas Eka Winahyo, Priyono, P. (2018). Penerapan strategi pembelajaran *problem based learning* melalui *blended learning* untuk meningkatkan hasil belajar mahasiswa pada matakuliah fisika teknik. *jurnal bangunan,* vol. 23, no.1, maret 2018: 35-42, 23(1), 35–42. *retrieved from* [https://www.academia.edu/33417375/\\_penerapan\\_strategi\\_pembelajaran\\_ko\\_munikatif?auto=download](https://www.academia.edu/33417375/_penerapan_strategi_pembelajaran_ko_munikatif?auto=download)

- Le Roux, I., & Nagel, L. (2018). *Seeking the best blend for deep learning in a flipped classroom – viewing student perceptions through the community of inquiry lens*. *International journal of educational technology in higher education*, 15(1). <https://doi.org/10.1186/s41239-018-0098-x>
- Lestaringsih, E. D. (2017). pengembangan model *problem based learning* dan *blended learning* dalam pembelajaran pemantapan kemampuan profesional siswa. *Lite jurnal bahasa sastra dan budaya*, 13(2), 105–121. retrieved from <https://publikasi.dinus.ac.id/index.php/lite/article/view/1714>
- Lobczowski, N. G., Allen, E. M., Firetto, C. M., Greene, J. A., & Murphy, P. K. (2020). *An exploration of social regulation of learning during scientific argumentation discourse*. *Contemporary educational psychology*, 63, 101925. <https://doi.org/10.1016/j.cedpsych.2020.101925>
- McNeill, K.L., & Krajcik, J. (2006). *Middle school students' use of appropriate and inappropriate evidence in writing scientific explanations*. *Proceedings of the 33rd Carnegie Symposium on Cognition*.
- Mozelius, P., & Hettiarachchi, E. (2017). *Critical factors for implementing blended learning in higher education*. *International journal of information and communication technologies in education*, 6(2), 37–51. <https://doi.org/10.1515/ijicte-2017-0010>
- N. A., Reece, Jane B., Urry, L. A., Cain, M. L., Wasserman, St. A., Minorsky, P. V, & Jackson, R. B. (2010). Biologi (8th ed.; w. hardani & p. adhika, eds.).
- Noour, M. A. T., & Hubbard, N. (2015). *Self-determination theory: opportunities and challenges for blended e-learning in motivating egyptian learners*. *Procedia - social and behavioral sciences*, 182, 513–521. <https://doi.org/10.1016/j.sbspro.2015.04.836>
- Park, H., & Shea, P. (2020). *A review of ten-year research through co-citation analysis: online learning, distance learning, and blended learning*. *Online learning journal*, 24(2), 225–244. <https://doi.org/10.24059/olj.v24i2.2001>
- Pitaloka, E. D., & Suyanto, S. (2019). Keefektifan *blended - problem based learning* terhadap pemecahan masalah pada materi ekologi. *Jurnal pendidikan: teori, penelitian, dan pengembangan*, 4(5), 640–647.
- Pritasari, A. C., & Jumadi, J. (2018). *Development of science learning tool based on problem based learning with google classroom to improve argumentation skill*. *biosaintifika: journal of biology & biology education*, 10(2), 348–355. <https://doi.org/10.15294/biosaintifika.v10i2.14320>
- Probosari, R. M., Ramli, M., Harlita, H., Indrowati, M., & Sajidan, S. (2016). Profil keterampilan argumentasi ilmiah mahasiswa pendidikan biologi fkip UNS pada mata kuliah anatomi tumbuhan. *Bioedukasi: jurnal pendidikan biologi*, 8(2), 29. <https://doi.org/10.20961/bioedukasi-uns.v9i1.3880>

- Purnomo, A., Ratnawati, N., & Aristin, N. F. (2016). Pengembangan pembelajaran blended learning pada generasi z. *Jurnal teori dan praksis pembelajaran ips*, 1(1), 70–76. <https://doi.org/10.17977/um022v1i12016p070>
- Ratnasari, D., Ponoharjo., & Utami, W. B. (2020). Penerapan aplikasi whatsapp terhadap minat dan prestasi peserta didik. *jurnal edukasi dan sains matematika*, 6(2), 129–138. <https://doi.org/https://doi.org/10.25134/jesmat.v6i2.341>.
- Rizqi, A. A. (2016). Kemampuan komunikasi matematis siswa melalui *blended learning* berbasis pemecahan masalah. *Prisma*, prosiding seminar nasional matematika, 1(1), 191–202. retrieved from <https://journal.unnes.ac.id/sju/index.php/prisma/article/view/21457>
- Sani, R. A. (2019). Strategi belajar mengajar (1st ed.). Depok.
- Spence, G. (2001). Seni berargumentasi dan menang setiap saat (4th ed.; d. h. purnomo, ed.). Jakarta: PT gramedia pustaka utama.
- Spring, K. J., & Graham, C. R. (2017). *Thematic patterns in international blended learning literature, research, practices, and terminology*. *Online learning journal*, 21(4), 337–361. <https://doi.org/10.24059/olj.v21i4.998>
- Sudarmo, N. A., Lesmono, A. D., & Harijanto, A. (2012). Analisis kemampuan berargumentasi ilmiah siswa sma pada konsep termodinamika. 196–201.
- Sugiharto, B., Corebima, A. D., Susilo, H., & Ibrohim. (2019). *The pre-service biology teacher readiness in blended collaborative problem based learning (bcpbl)*. *International journal of instruction*, 12(4), 113–130. <https://doi.org/10.29333/iji.2019.1248a>
- Sugiyono. (2019). Metode penelitian kuantitatif, kualitatif dan r&d (1st ed.; sutopo, ed.). Bandung.
- Suharsono, & Kamil, P. M. (2017). *Biologi umum*. Tasikmalaya.
- Suraya, S., Setiadi, A. E., & Muldayanti, N. D. (2019). Argumentasi ilmiah dan keterampilan berpikir kritis melalui metode debat. *Edusains*, 11(2), 233–241. <https://doi.org/10.15408/es.v11i2.10479>
- Syah, M. (2017). Psikologi pendidikan dengan pendekatan baru. Bandung: PT Remaja Rosdakarya.
- Triyanto, S.A, & Prabowo, C.. (2020). Efektivitas *blended-problem based learning* dengan lesson study terhadap hasil belajar. *Bioedukasi: jurnal pendidikan biologi*, 13(1), 42–48.
- Triyanto, Samuel Agus, Susilo, H., & Rohman, F. (2016). Penerapan *blended-problem based learning* dalam pembelajaran biologi. *Jurnal pendidikan*, 1(1), 1252–1260.
- Viyanti, V., Cari, C., Sunarno, W., & Kun Prasetyo, Z. (2016). Pemberdayaan keterampilan argumentasi mendorong pemahaman konsep siswa. *Jurnal*

- penelitian pembelajaran fisika, 7(1), 43–48.  
<https://doi.org/10.26877/jp2f.v7i1.1152>
- Wolterding, V., Herrler, A., Spitzer, K., & Spreckelsen, C. 2009. *Blended learning positively affects students' satisfaction and the role of the tutor in the problem-based learning process: results of a mixed-method evaluation*. *Advances in Health Sciences Education*, 14(5), 725-738. doi:10.1007/s10459-009-9154-6
- Waluyo, S. T. (2020). *Blended learning untuk pelatihan vokasi* (1st ed.; m. Taupan, ed.). Bandung: pt. Srikandi empat widya utama.
- Yeh, Y. (2010). *Integrating Collaborative PBL with Blended Learning to Explore Preservice Teachers' Development of Online Learning Communities*. *Teaching and Teacher Education*, 26(8), 1630–1640.  
<https://doi.org/10.1016/j.tate.2010.06.014>
- Yeou, M. (2016). *An investigation of students' acceptance of moodle in a blended learning setting using technology acceptance model*. *Journal of educational technology systems*, 44(3), 300–318.  
<https://doi.org/10.1177/0047239515618464>
- Yilmaz, Ö., & Malone, K. L. (2020). *Preservice teachers perceptions about the use of blended learning in a science education methods course*. *Smart learning environments*, 7(1). <https://doi.org/10.1186/s40561-020-00126-7>
- Zakirman, & Rahayu, C. (2018). Popularitas whatsapp sebagai media komunikasi dan berbagi informasi akademik mahasiswa. *Shaut al-maktabah jurnal perpustakaan, arsip dan dokumentasi*, 10(1), 27–38.  
<https://doi.org/10.15548/shaut.v10i1.7>